THE ARCHITECT & BUILDING NEWS

14 JUNE 1956 · VOL 209 · NO. 24 · ONE SHILLING WEEKLY

- **BATA SHOE SHOP**
- **NORWICH CONFERENCE DISCUSSION**
- **INFORMATION DIGEST**

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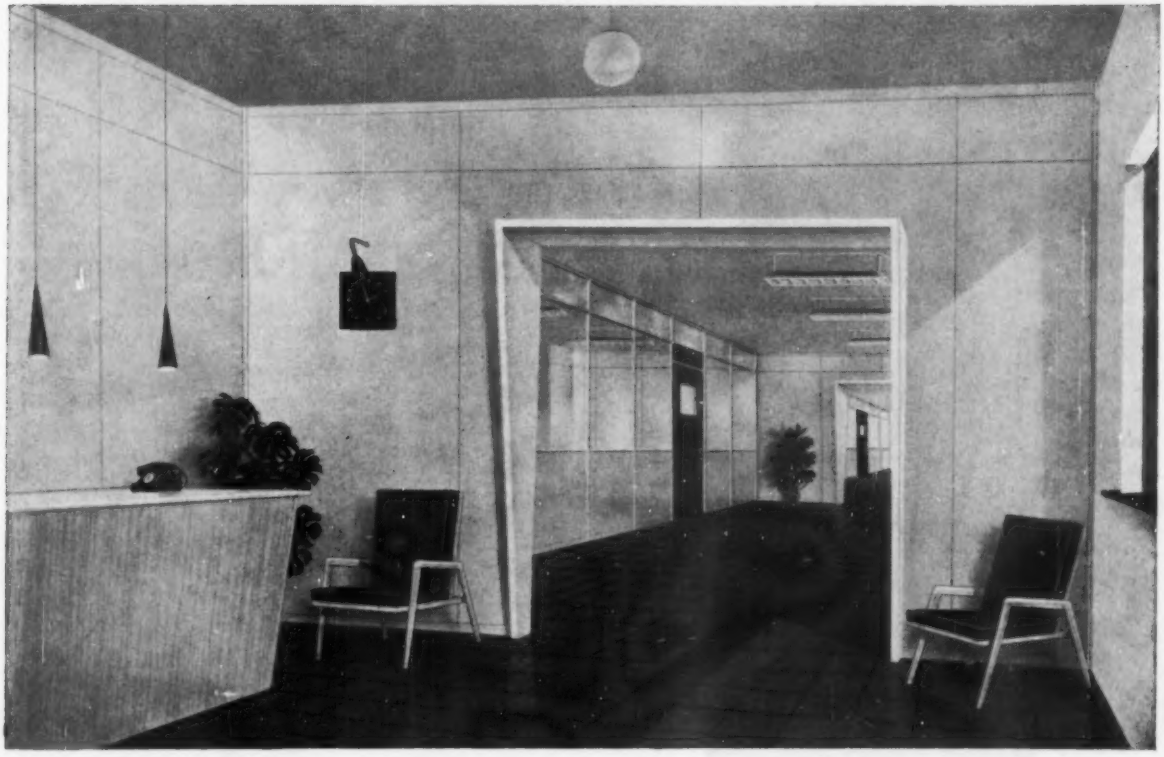

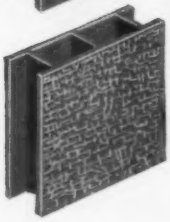

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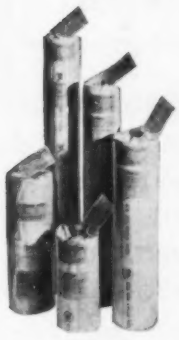

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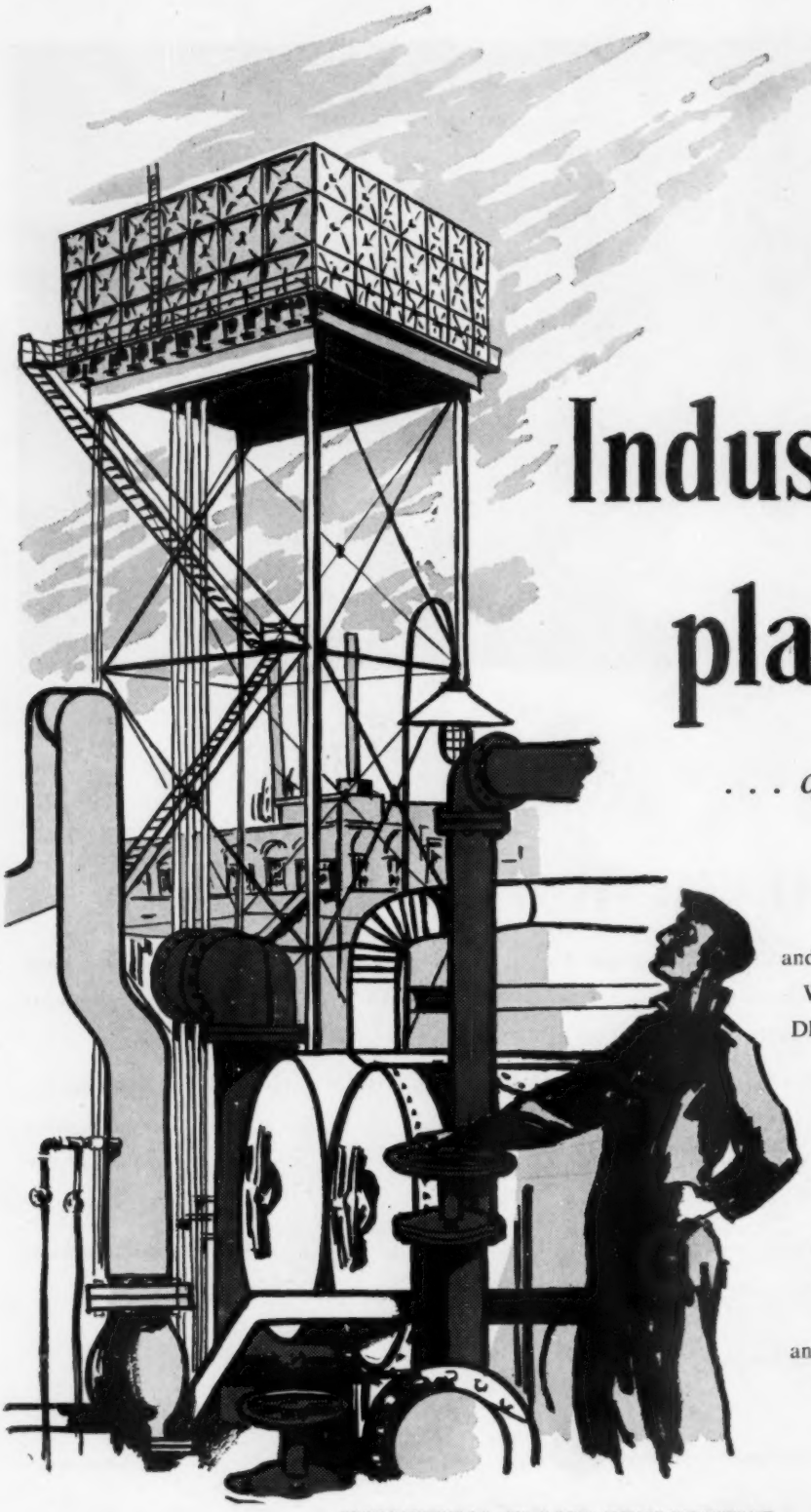

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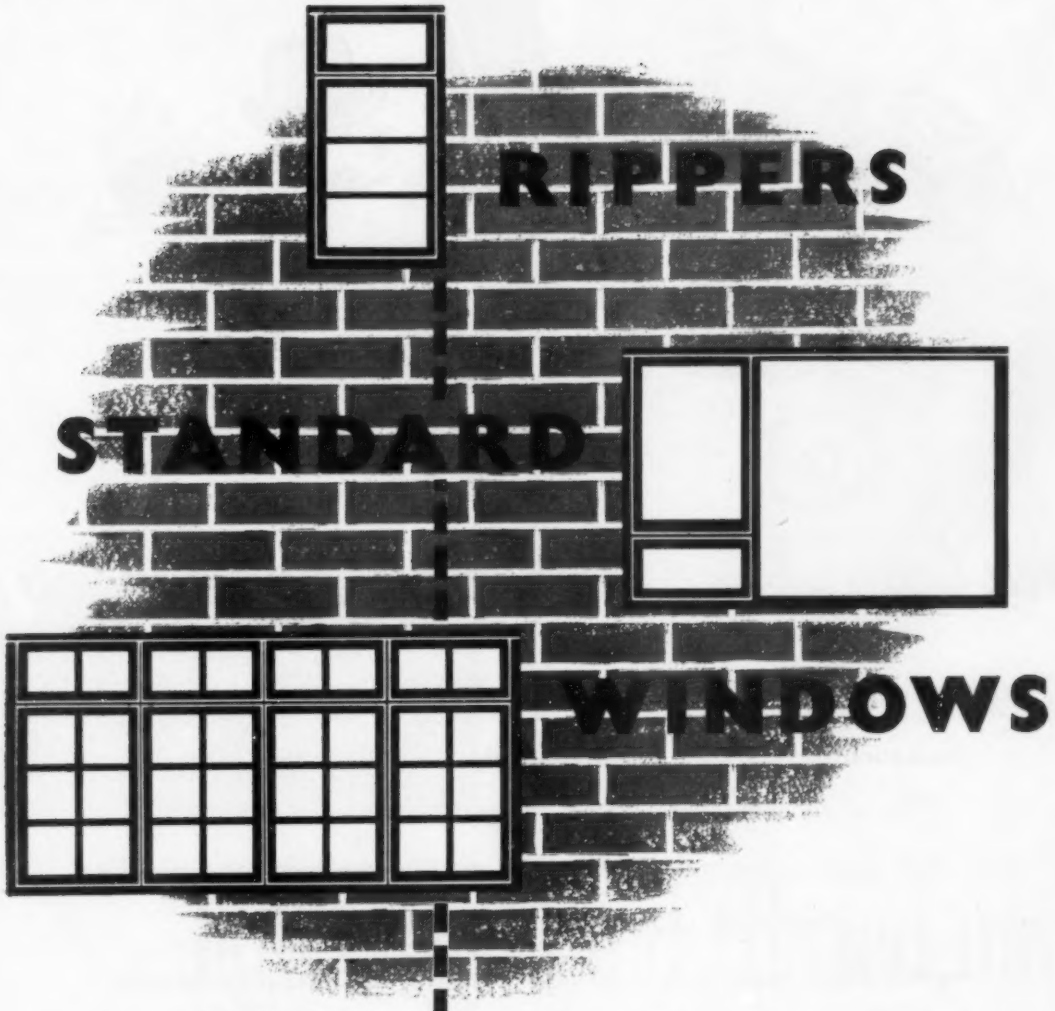

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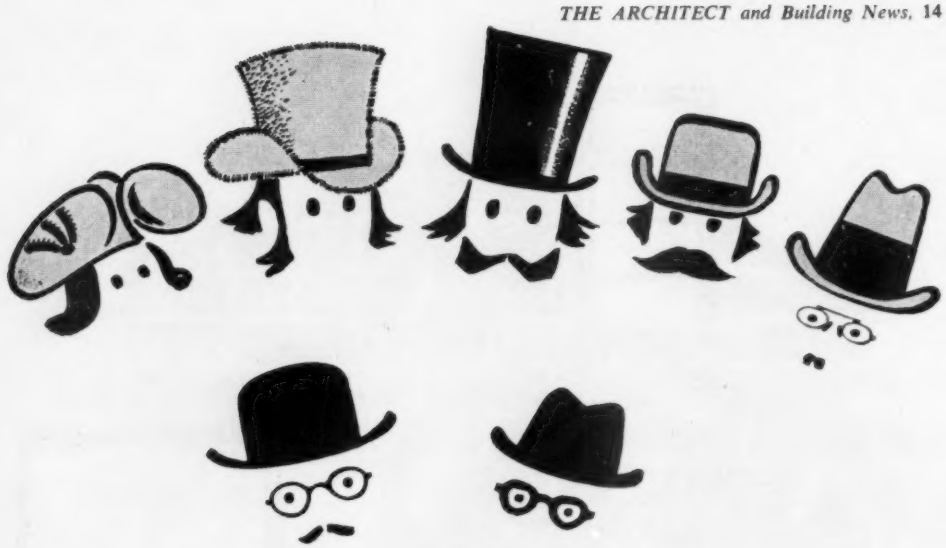

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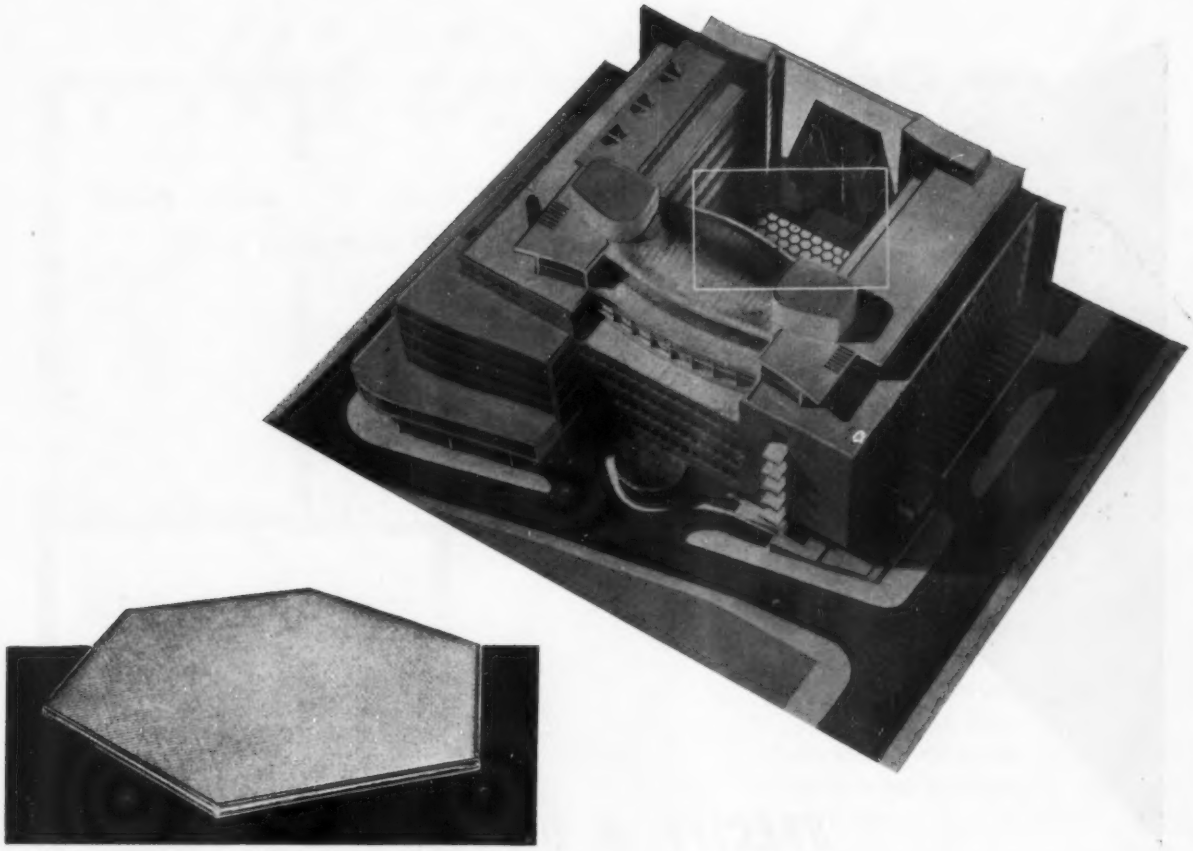

'Holloseal' Dual Glazed units in the T.U.C. Memorial Building

The Conference Hall roof at ground level in the Memorial Courtyard, is constructed of hexagonal 'HOLLOSEAL' DUAL GLAZED units. Each unit is hermetically sealed, consisting of two sheets of ¼-in. Georgian Wired Cast Glass separated by a metal spacer and a sandwich of dehydrated air. For complete weather-proofing, each panel has a further covering of ⅛-in. Rough Cast Plate Glass. These 'HOLLOSEAL' UNITS admit maximum light to the Conference Hall, ensure thermal insulation, reduce noise, and are quite free from condensation. 'HOLLOSEAL' DUAL GLAZED units in ¼-in. polished plate are also used in the building. Descriptive literature available on request.

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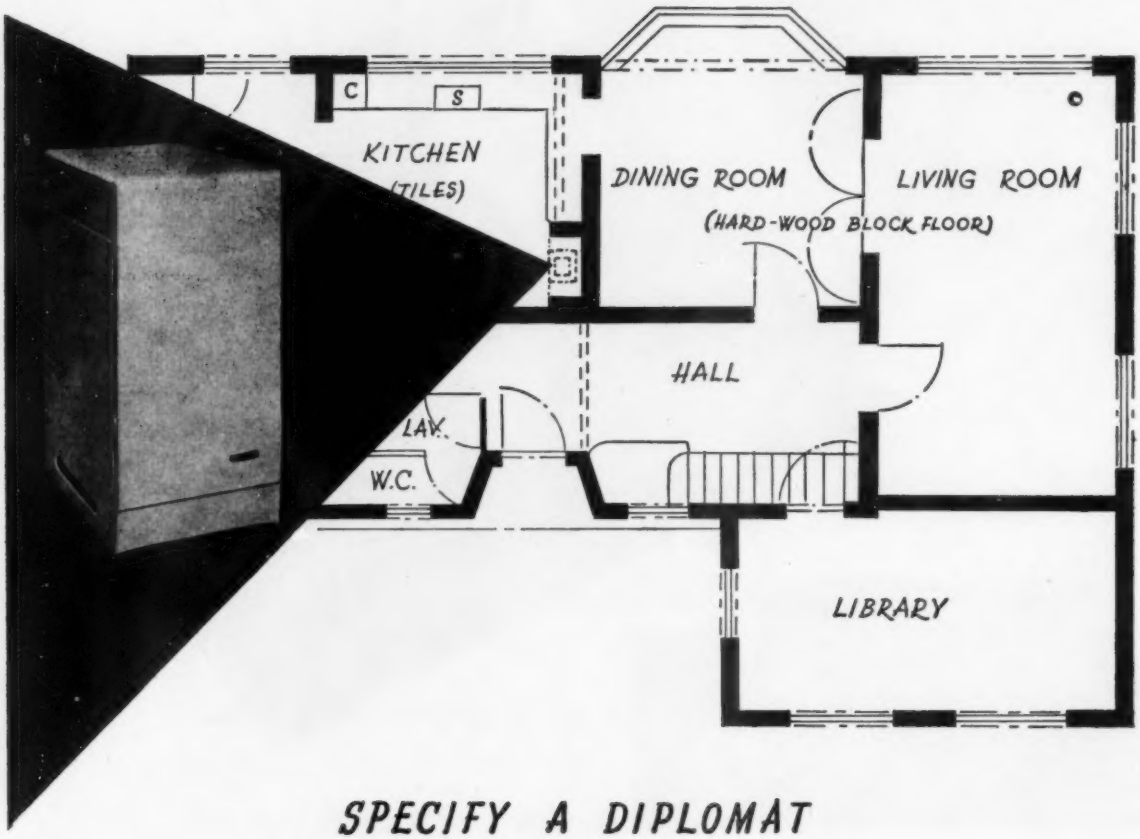

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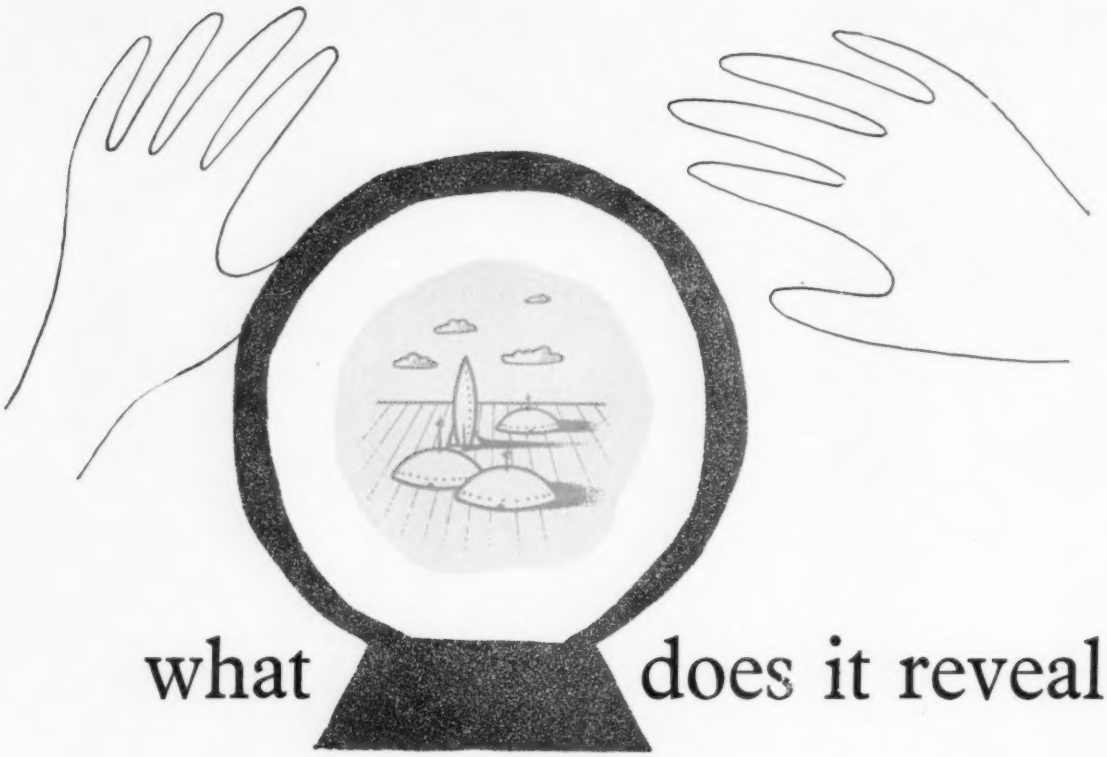

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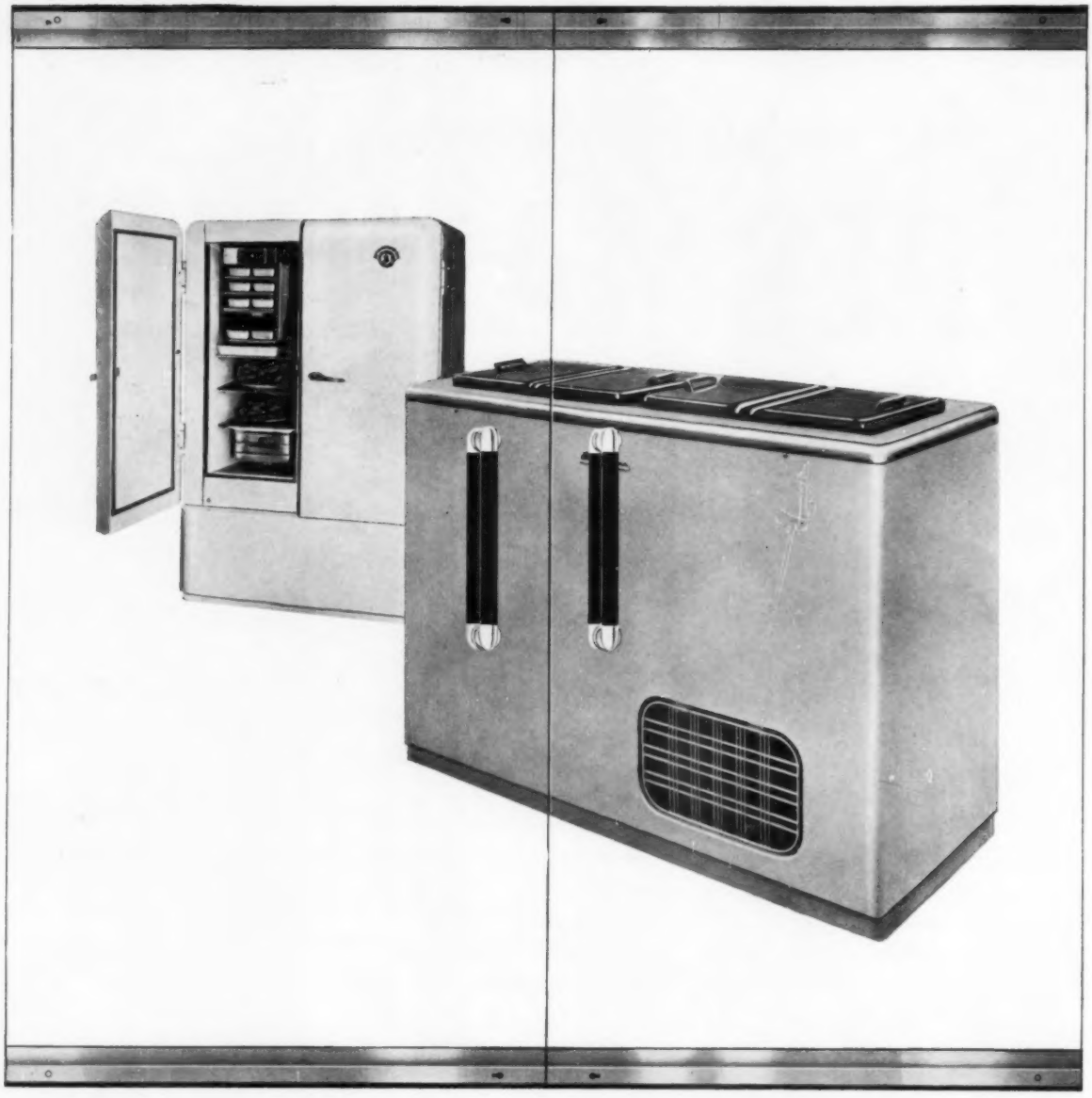

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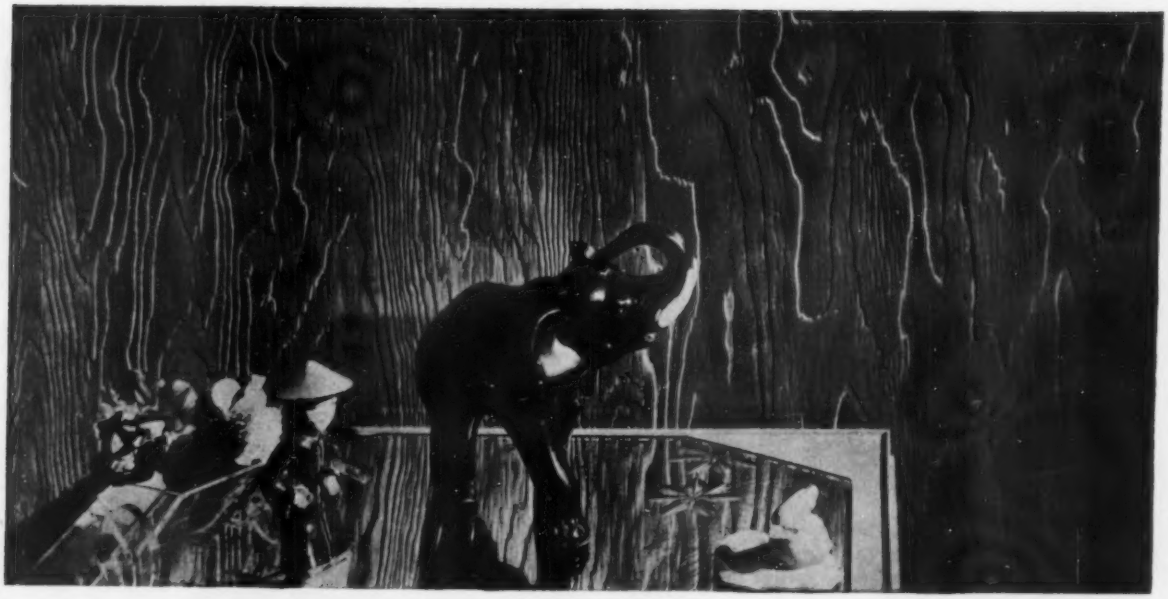

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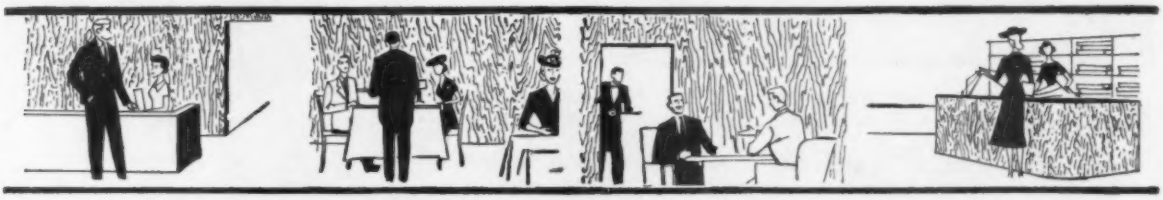

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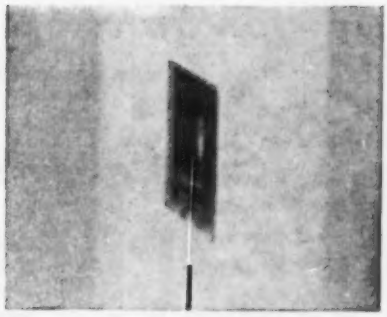

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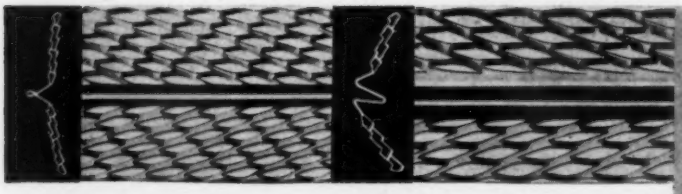

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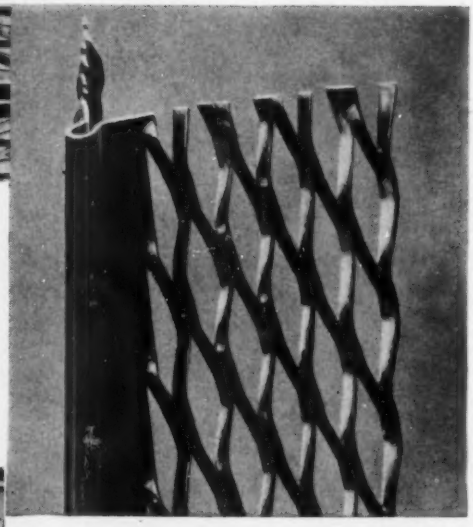

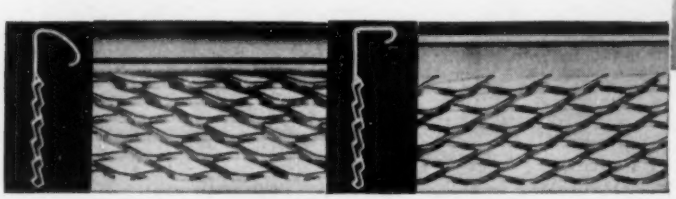

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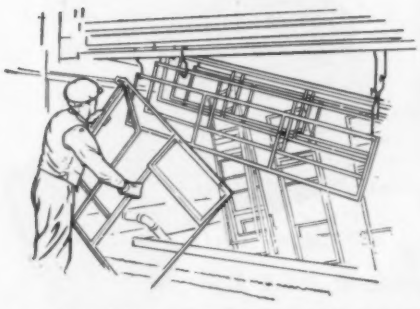

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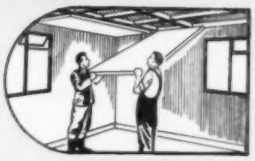

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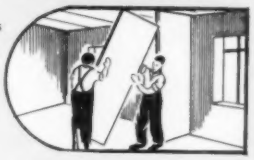

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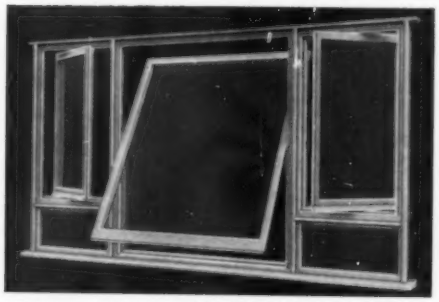

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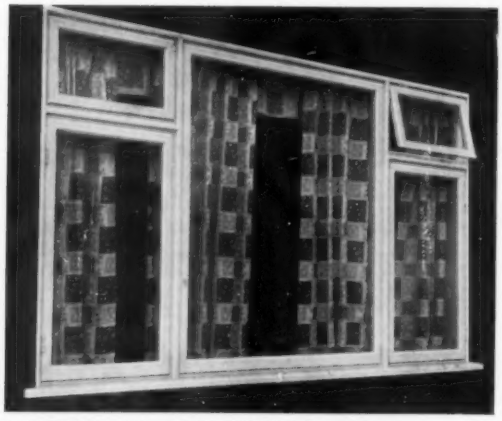

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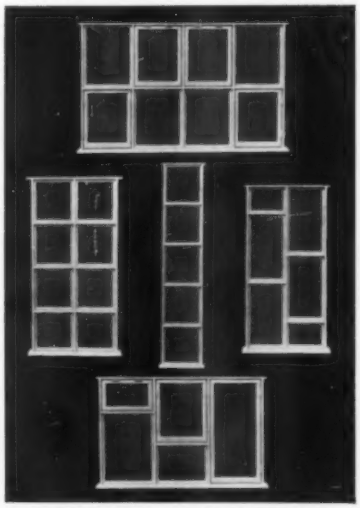

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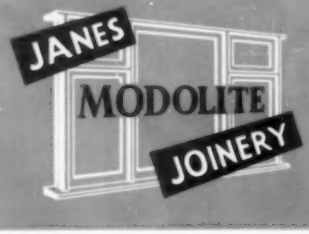

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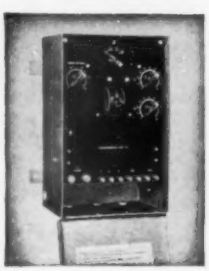

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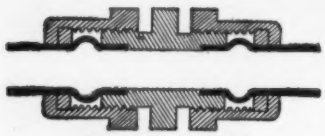
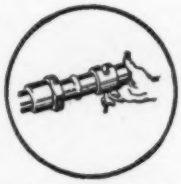
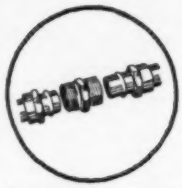


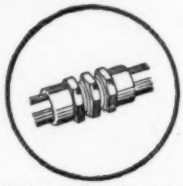
British Patent No. 596673



● Swage or circular ridge made with fool-proof tool.



● The fitting seats itself against the swages producing 100% efficient joint.



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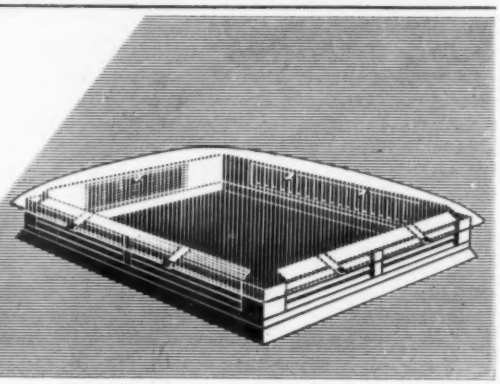

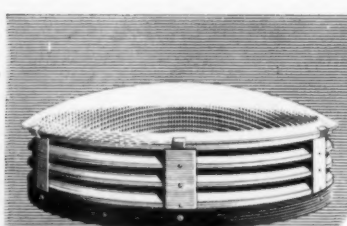

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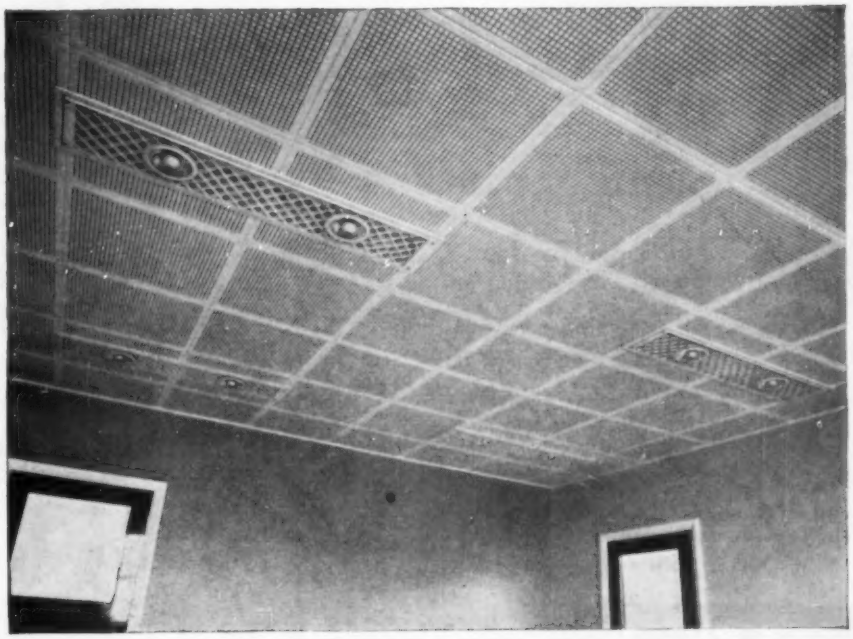

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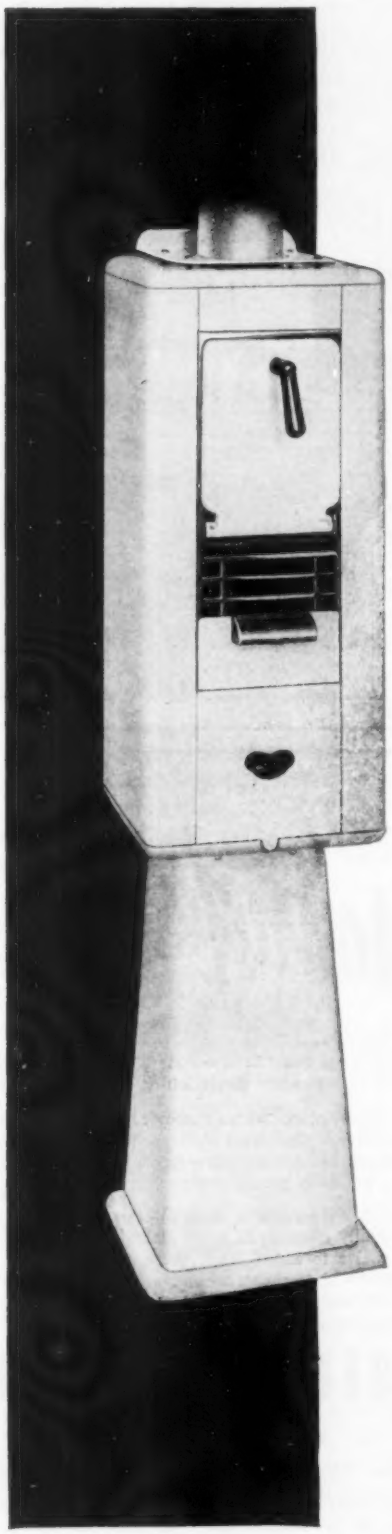

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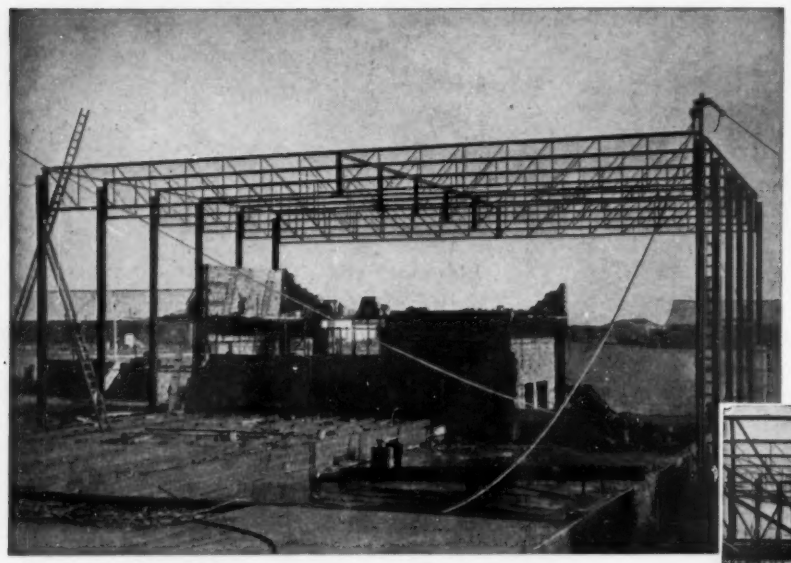

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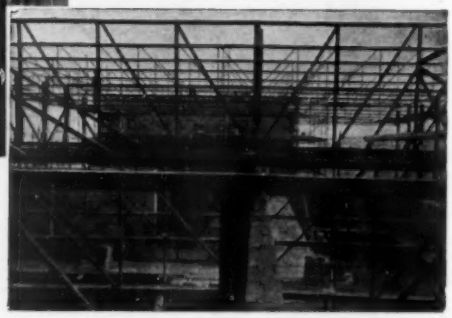

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Vol. 209 No. 24

THE ARCHITECT & BUILDING NEWS

June 14, 1956

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PROFESSIONAL ETHICS

ONE distinguishing mark of an established profession is a code of conduct agreed among members of that profession which may restrict the activities of the individual in some directions. Such codes fall broadly into two parts. The one part deals with the duty of the professional man to the public. The clauses which come under this heading are primarily concerned with the protection of the public, but indirectly they also protect the professional man by establishing an atmosphere of trust. The second part deals with the duty of an individual towards fellow members of his profession. The clauses which may come under this second heading benefit the public only very indirectly and, in some cases if applied too rigidly, could even act to the public detriment.

A clause in the codes of conduct of the architectural profession which falls most clearly into this second category is that which governs the relationship between two architects when one has been approached by a client to take on work for which the other had previously been responsible. Attempts have been made to govern this relationship for many years past and at present it is covered in the codes of conduct promulgated by both the Architects Registration Council and the R.I.B.A. For the purposes of consideration here, however, only the provision in the R.I.B.A. code will be considered because it is both of much longer standing and also more specific in drafting.

Clause 11 of the R.I.B.A. Code of Professional Conduct states: "A member or student, on being approached or instructed to proceed with professional work upon which another architect was previously employed, shall notify the fact to such architect."

The R.I.B.A. code is specific and mandatory. It says "Thou shalt," or "Thou shalt not," and must therefore be read as meaning precisely what it says; no more, no less. The member approached by a client must notify the member previously employed: but he need do no more than notify him. He has not to obtain his agreement to taking over nor is he under any obligation to see that the other member's outstanding fees are paid off.

On the point of outstanding fees, this clause, or rather a comparable clause, in the code in force early in this century did enjoin upon the succeeding architect the duty of ensuring that his predecessor had been paid off before taking over. That requirement was later omitted in the light of experience. Cases occurred of clients being seriously prejudiced by the displaced architect contesting whether he had been adequately paid or not, and so holding up the building operation.

What, then, is the object of the clause? It is designed to safeguard the interests of both architects. It ensures confirmation that the dismissed architect has been properly notified by the client of his dismissal. If he has not, it gives him an opportunity to put in his account for fees. It prevents two architects advising a client simultaneously and unknown to each other and it provides for the exchange of information in regard to copyright, if any exists at the time of takeover, and any other matters over which trouble could arise at a later date. Finally it gives the succeeding architect some chance of finding out the particular snags he will run up against. It is therefore clear that this provision in the code is something more than a mere admonition to observe professional good manners.

What is the position when an architect is asked to take over from an unregistered practitioner? A look at the functions of the clause described above gives the answer. The architect still has much to gain by observing the clause and nothing to lose. An argument as to whether he is obliged to do so or not is purely academic.

Another part of the wording of the clause which is frequently misunderstood is the phrase: "professional work upon which another architect was previously employed".

In big schemes carried out in stages it is sometimes difficult to decide whether another architect was previously employed on a particular section. For instance;

one man may have done a university hall of residence, but it would be rather a stretch to say that a new man called in to build some science laboratories was under any obligation to the first architect. On the other hand nothing is lost by notifying him. Again, with a development long postponed and finally revived on a much altered basis it is difficult to say where a line should be drawn. Personalities may also obtrude: one has only to consider a partnership dissolved and at a later date a new man brought in by the building owner to complete a scheme which the partnership had begun. Whom should the new man notify?

Even these problems fade into comparative simplicity when one surveys the National Health Service. Here a number of corporations have taken over the administration of numerous buildings built and previously cared for by private architects. They now administer the buildings through official architects who in their turn delegate work to other private architects. Who should notify whom, and when? It says as much for the good sense and good nature of the private practitioner as for the tact of the Regional Hospital Board architect that there have been very few troubles.

There is no doubt that the problem of swapping architects has become more troublesome in the last twenty years or so. In the old days the individual client was the rule: His memory was long and his relationship with his architect close and personal. Today the corporate client is in the majority. The individual members of a board or committee change frequently: corporate memories are short and the relationship with the architect is less intimate. With the "blow-hot-blow-cold" Government financial policy, schemes get put on and off. An "on" season may come after the membership of the board or committee has changed completely and naturally the new men will want to make a new start.

The clause in the code requiring notification is a safeguard as much to the new, as to the former architect. The moral is to notify any fellow architect who was remotely connected with the work previously. If the successor does not comply with the requirement of the code he is very foolish; he is not criminal.

EVENTS AND COMMENTS

BEADS AT THE TEA CENTRE

I only heard by chance of the exhibition of Nigerian Arts and Handicrafts which closed at the Tea Centre last Saturday. I am sorry that you will have missed it for it contained some charming things.

The exhibition was originally collected by the Government of the Western Region of Nigeria for the Royal visit in February. The exhibition caused so much interest that it was decided to bring it to London.

The exhibits were selected by John Danford, director of the British Council, Western Nigeria, who also contributed a most interesting series of water-colour paintings of the Ceremonial Robes, Uniforms, Festival Costumes and National dress of the peoples of Nigeria. These drawings were lent by the Western Region Government and come from the Parliament Building, Ibadan. The section devoted to Nigerian art pleased me most. It included a large number of bead covered crowns and headdresses together with slippers, wands of office and other ceremonial articles all covered in minute brightly coloured or gold beads. These charming and often beautiful things come from the Yoruba people whose obas and chiefs usually retain their own bead workers. Casts of the famous Ife bronze heads were also shown. The originals, one of which is in the British Museum, are believed to be 500 years old. Some of the wood carving had great charm, in particular a mask, about 5ft high, which carried an equestrian group of a whole family on its summit, and a wonderful mounted figure of a Yoruba oba.

A fine collection of drums made me wish that musicians were also being exhibited for there is nothing more tantalising than a silent African drum.

There were some fine modern carvings, and very pleasant textiles and raffia work but I thought that the modern furniture was following the wrong European streams.

Eero Saarinen and his model of the proposed U.S. Embassy Grosvenor Square. See revised elevation overleaf

HOUSING IN MALAYA

Interesting experiments in house design are being carried out by the government-sponsored Housing Trust of the Federation of Malaya. With only limited finance available it was decided to stimulate private building by the production of good house types in various parts of the Federation. This was done by developing a number of small estates of houses for sale. Private house building in Malaya was almost at a standstill after the Korean war and speculative builders were making enormous profits on the few houses being built.

Twelve different types of house were designed and

produced in model form for an exhibition which toured the country. Visitors were asked to comment on the designs and to choose their favourite. This idea brought good results and enabled the trust to decide which houses would sell best. A previous test where show houses were built for inspection failed. The houses sold satisfactorily but the public offered no comments.

Many of the houses it appears were bought by Chinese and this had its own problems because of traditional beliefs. For example a Chinese will not live in a house which faces a hill, nor must rooms have doors at both ends (prosperity will not stay in such a house).

Having been functioning for something over three years and built a thousand houses the Trust is now building accommodation to let but it is still short of money. Mr. Vernon Newcombe, architect manager of the Trust, upon whose talk at the A.A. this report is based, thinks that the main objects of the Trust are being achieved. People are taking a greater interest in design and many speculative builders are adopting the Trust's plans.

It is interesting to note that concrete post and panel construction had to be discontinued because such houses were dubbed " prefabs ". Traditional brick rendered construction is used with tiled roofs. Examples of the Trust's work shown on Mr. Newcombe's excellent slides looked extremely good.

CHURCH LIGHTING

The June issue of *Lights & Lighting* is devoted almost exclusively to Church Lighting and provides a most useful guide to the subject. Particularly interesting are two articles on the Lighting of New Churches, one from the Lighting Engineer's point of view, by M. W. Peirce and J. M. Waldram, and the other from the Architect's point of view, by Edward Mills. Both artistes look in much the same direction, but the illustrations to Mills' article are more architectural and dramatic. It is only fair to say that the pictures in the engineers' article are sharply criticised for one reason or another by the authors, although I have a distinct feeling that I would better be able to read my prayer book in some of the churches which they illustrate than in some of those in Mr. Mills' article. A useful article on the re-lighting of old churches, by D. W. Tyrrell, rounds off a most worthwhile issue.

GATEWAY HOUSE

The staff of Messrs. Wiggins Teape have been having a roughish time lately. Since the Press show some 3,000 people have been entertained at some 14 parties. I hope that they were able to take advantage of the thoughtful provision of bedrooms for weary executives in the building.

Mr. L. W. Farrow, chairman of Wiggins Teape explained that as tenants they had been allowed full scope in the interior layout and decoration of the building. They must therefore be partly responsible for what my agent calls 'the incredible colour.' A number of eminent persons have been asked to give their views on the building and all appear to find it pretty good. A Past President of the Royal Academy, however, politely declined to comment, on the grounds that having retired he was being careful to avoid anything that would lead to trouble. He is reported to have replied to Messrs. Wiggins Teape's invitation as follows: " I have read your letter with a certain amount of surprise that you should thing my opinion is of the slightest value. Only an architect or a town planner might think his opinion of value and very few people would agree with him."

DESIGN

To celebrate the Royal Opening of the Design Centre a special issue of *Design* has appeared. It is fat and smooth and has some colour plates. It contains an account of the opening and photographs of a great many exhibits. If you cannot visit the Design Centre it will give you a very fair idea of it, if you have visited it this copy of *Design* will provide you with a good reminder of what you saw. Also included in the issue is a photograph of the Jaguar showroom in New York where the latest models are disposed about a setting of " British elegance " thick with oak beams, classical joinery details, brass chandeliers and square tubbed pot plants.

CHILDREN'S ESSAY COMPETITION

The Council for Visual Education is offering 3 prizes of £4 Book Tokens and 3 of £2 ditto for essays by children on " Beautiful Buildings I have seen," the age groups are 10 to 13, 14 and 15, 16 and over (maximum not stated). Full particulars from the Council at 13 Suffolk Street, E.W.1. Closing day 1st October. This seems to me a very good idea and I hope the Council will make the winning works available for publication.

THREAT TO PLYMOUTH CHURCH

I am sorry to see that St. Catharine's Church, Plymouth, is threatened with demolition. It is a fine example of the Greek revival and was designed by Plymouth's own John Foulston at the beginning of the 19th century. It appears to be redundant as a church, but as the Annual Report of the Georgian group for 1955 points out, that is no reason for demolition. It would make an admirable conference hall. The group has its eye on this " case." Let us hope that good will come of it.

JOHN NASH MEMORIAL

I also learn from the Georgian group report that £80 is still needed to complete the fund for the erection of a monument to John Nash under the portico of All Souls', Langham Place. It will take the form of a replica in 1½ size of the original bust by Behnes in the possession of the RIBA on a plinth. The whole executed by Mr. Cecil Thomas.

ABNER

Correspondence

R.I.B.A. Ballot

Sir,—This letter concerns the R.I.B.A. Council Ballot. As a result of a mistake at the R.I.B.A. and the consequent cancellation of ballot papers and the issuing of new ones, the fact emerges that a number of votes from members living abroad may not have been recorded in time, and those omissions may severely affect the results of this election.

May I also point out that some members of the R.I.B.A., living overseas do not receive their balloting papers (when sent by ordinary post) till the election is over.

It would be interesting to know what action other Societies take in a situation such as this?

SIDNEY LOWETH.

Hotel Imperial, Hythe.

Domestic Hot Water Standards

Sir,—The author of your article on Domestic Gas Appliances (24 May) quotes the Egerton Report recommendation that a satisfactory hot water installation should be capable of supplying at least 250 gallons of water a week at 140 degrees F., and adds the comment: "The Gas Industry's assumption of 150 gallons per week as a more realistic level, however, was confirmed by the Abbots Langley Building Research Station field trials".

This is not the case. The B.R.S. report ("Domestic Water Heating", by J. C. Weston, Journal of the Institution of Heating and Ventilating Engineers, February, 1950) contained nothing to show that the Egerton standard was unrealistic. When water was heated by solid fuel in a domestic boiler, the average hot water consumption was 232 gallons per week. It is true that the report suggested that when water was to be heated by gas or electricity a consumption of 150 gallons a week should be taken as standard. But all this meant was that those who used gas and electricity could not afford as much hot water as those who used solid fuel.

W. C. MOSS,
Technical Manager,
Coal Utilisation Council.

Failure of Coloured Glass

Sir,—I was interested to read in Abner's Column of the failure of coloured glass in curtain walling. I have recently specified coloured glass in a School about to be built for filling in panels in walling of this type. The original samples I received from the manufacturers were ¼in Georgian wired with the colour rolled on to the back during process of manufacture. I have, however, been advised by the makers not to use this type, and they have sent me samples which are similar in all respects except that the wiring is omitted. The contention is that with the increased expansion due to the glass being opaque stresses are set up between the glass and the wire, and with unwired glass there is less likelihood of failure.

JOHN T. LEWIS.
Borough Architect.

NEWS

Approval of St. Paul's Plan: Town Planning Committees Report

The Improvements and Town Planning Committee of the City Corporation in a report to be presented to the Court of Common Council today, recommend that Sir William Holford's proposals for St. Paul's Precincts should be approved in principle "as a satisfactory basis for the ultimate creation of a worthy setting for the Cathedral insofar as may be necessary at this stage for the purpose of amending the City's Development Plan; that is to say, for the purpose of considering areas of comprehensive development, open spaces, roads and zoning and such other limited matters as appears in such a document (Sir William's report)".

The Committee makes it clear that this is their initial view of Sir William's proposals; and if the Court of Common Council accept their recommendation it must not be regarded as necessarily implying "that the Corporation accept unreservedly many of the detailed proposals contained in Sir William's report". The Committee mention specifically that the Corporation by approving the plan in principle do not accept "irrevocably the height of the tall block of office buildings to the north of the Cathedral, or the precise future of St. Paul's Garden", and at this stage the Committee "are expressing no opinion about the merits of the proposal to reinstate Temple Bar to the north of the Cathedral".

Before any proposals can go forward modifications of the Development Plan will have to be submitted by the London County Council, as Planning Authority, to the Minister of Housing and Local Government and these are unlikely to become effective without the holding of a Public Inquiry; the ultimate decision resting with the Minister of Housing and Local Government.

The Committee state that the modifications of the Development Plan would take two to three months to formulate precisely and these would be brought before the Court who "at that stage would be better able to adjudicate on the merits of any particular modification".

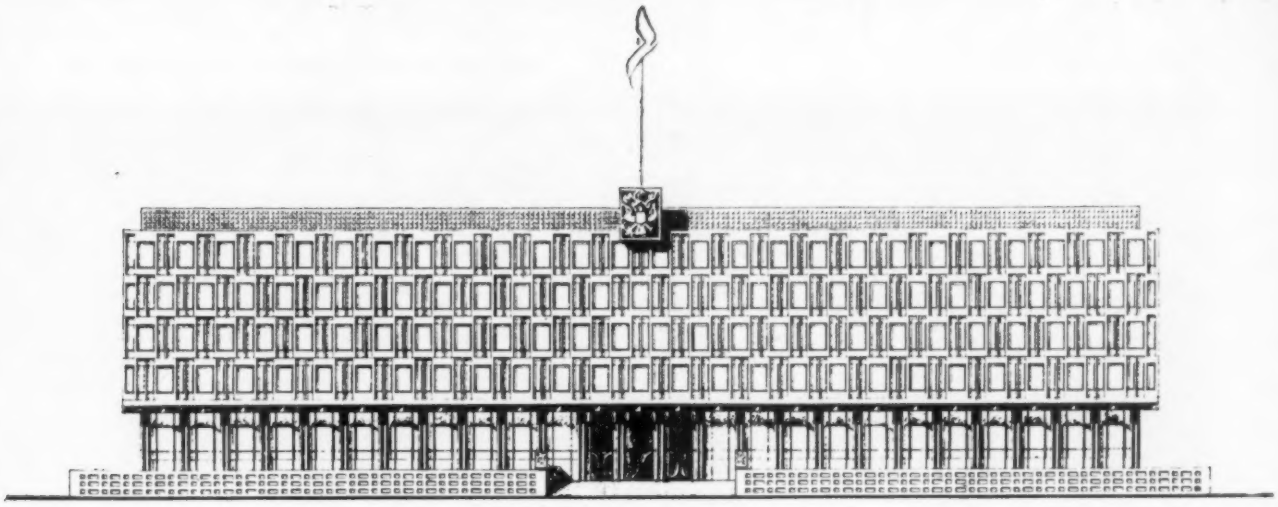
On the subject of cost, the Committee in their report state that the cost to public funds of the implementation of Sir William's proposal, broadly on the basis of his report, would be £10m to £12m spread over a period of years; and loan charges on this outlay would be offset by rents and government grants. Their estimate is based on the assumption that all the land within the Precinct would be acquired and developed by the Corporation as a series of redevelopment units. The Committee understand that the Church Commissioners, who own a considerable area of land between the Cathedral and Newgate Street might be prepared to undertake development in their area in accordance with Sir William's proposals, and this would considerably reduce the expenditure falling on public funds.

Week-end Course for Foremen

The second residential week-end Course for Builders' Foremen to be held in the Southern Counties Region will take place from the 13th to 15th July, at Moor Park College, Farnham, Surrey.

The Course will assemble on the evening of Friday, July 13th, and after dinner will be welcomed by the Warden of Moor Park College—Canon R. E. Parsons, M.A., followed by Mr. R. W. Whittington, M.I.O.B.—a Past President of the Southern Counties Federation of Building Trades Employers, who will outline the aims and procedure of the Course.

About thirty foremen—the residential capacity of the College—will be participating. The inclusive fee for the whole of the Course, including residence and meals, will be £3 per foreman.



Last week Aero Saarinen on his way to discuss a new U.S. Embassy in Oslo, dropped in to London and held a press conference on his design for the U.S. Embassy, Grosvenor Square, details of which were published in A. & B.N. 19.4.56. Changes are being made to his winning design and the revised Grosvenor Square elevation is shown above.

Clyde Bridge

Glasgow Corporation has now approved the type and location of the further cross river bridge which has been under discussion for some considerable period with the Clyde Navigation Trust. In deference to the wishes of the Trust, the Corporation has agreed to an opening type bridge at quay level as against the original proposal for a fixed bridge, which would have had the effect of cutting off an area of dock currently in use.

The agreed line is to be Carnoustie Street-Shearer Steet, on the south side, to Clyde Ferry Street, on the north, from which point a ring road will continue via North Street and St George's Cross to allow traffic to avoid the city centre.

A roundabout at Anderston Cross is also proposed as part of this plan which will have the effect of taking a considerable strain off the city centre bridges.

The plan has been approved by the Planning Committee, but it remains to be accepted by the full corporation and then by the Ministry of Transport.

Perth Competition

Forty-three designs have been submitted in the competition limited to architects in Scotland for the redevelopment of part of the central area of Perth. The assessor is Mr. R. J. Naismith, A.R.I.B.A., of Sir Frank Mears and Partners, Edinburgh.

Housing Progress

The M.o.H. & L.G. and the Department of Health for Scotland have announced that the number of new permanent houses and flats built in Great Britain since the war and up to April 30th, 1956, totalled 2,330,345. Those built in England and Wales make up 2,064,871 of this total and the remainder of 265,474 were built in Scotland. Private Contractors in the whole of the country erected 518,545 dwellings and Public Authorities 1,811,800. In April 1956 there were a total of 23,101 flats and houses built in Great Britain.

L.M.B.A. Notes

A second silver medal is to be given by the L.M.B.A. for building apprentices taking the City and Guilds course in painting and decorating work. At present it awards one bronze medal at intermediate level and one silver at final level. It has now been decided to offer an additional silver medal because of a new scheme, which is to come into force next year. The present City and Guilds examination at intermediate level is being replaced by an examination for the basic craft course, with two final examinations to follow, one in decorative painting and the other in industrial and commercial painting.

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Donations are still coming in for the I.O.B. Board of the Building Education fund, which was closed officially a month ago. Among the latest is a cheque for a hundred guineas from Messrs. Falkus, Bros. This brings the L.M.B.A. total up to £3,580.

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The L.M.B.A. is organising a half-day conference on foremanship training in the Council Chamber at 47 Bedford Square on the afternoon of Thursday, June 28th. Its purpose is to explain to employers the need for long-term foremanship training and to stimulate firms to nominate suitable candidates for the next certificate course which begins in Westminster Technical College in the autumn. Last year only nineteen candidates were accepted for the course out of sixty-seven nominations.

Mr. D. A. G. Reid, Principal of the Brixton School of Building, and Mr. D. E. Wheatley of the City and Guilds of London Institute have been invited to read papers, and Mr. D. E. Woodbine Parish will speak in his capacity as Chairman of the Standing Committee for the training of general foremen.

R.C.A. Luncheon

Before their Annual General Meeting last week members of the Reinforced Concrete Association held a luncheon at the Dorchester with their President, Mr. D. H. New in the chair. Mr. Henry Price, M.P. for West Lewisham was Guest of Honour. Mr. J. A. Derrington was presented with the Association's Medal for his paper "Some Recent Developments in the Techniques of Precasting Concrete Structures", the best paper read to the Association in 1955.

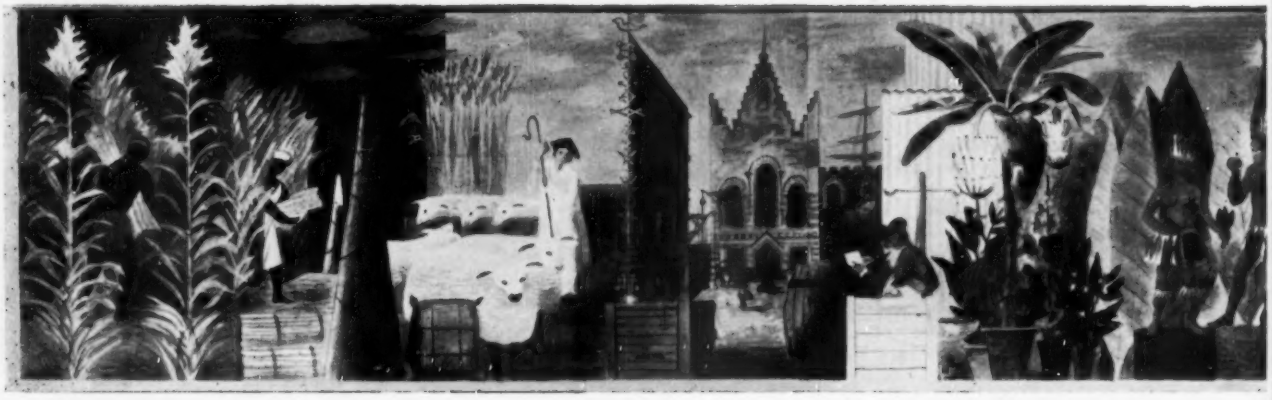
New Information Centre Opened

An information centre, where builders, architects and others concerned with the industry can have their technical problems dealt with, opened last Monday for an experimental period in the Department of Building, Sheffield College of Technology.

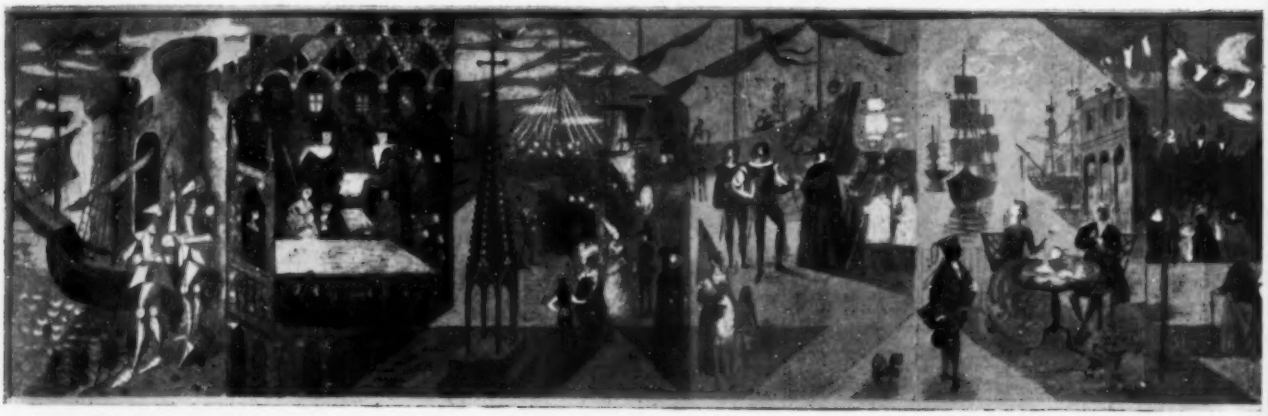
The Ministries of Education and Works are supporting the College in the venture, the first of its kind in Yorkshire, and if it is successful, similar centres may be opened in other areas.

The centre will provide a channel through which research carried out by such bodies as the Building Research Station can be brought to bear on building problems in the area. Improved contact will also be possible between the industry, the college, and research and information services concerned with building. In addition, research workers will have the opportunity of keeping in touch with the industry's needs in South Yorkshire,

First: MISS MARY ADSHEAD



Second: MISS BARBARA JONES



Third: LAURENCE SCARFE

Mural Competition Prizewinners

PUBLISHED here are the three prize winning entries from the 19 designs submitted in competition for a mural in the restaurant of Lewis's new store in Bristol which were shown at Selfridges Store, Oxford Street, recently. The competition was organised by the Society of Mural Painters who required the artists to work on a theme bringing out the history of the City and its association with the sea and with trade. Lewis's store, by the architects Sir Percy Thomas and Son, is now under construction and the Assessors for the competition were S. H. Leake—Chairman of the Company—Eric Newton and Sir Percy Thomas. Prize money was £250 for the winning design, £150 for the second and £100 for the third design.

News Continued

North Derbyshire, and North Nottinghamshire.

The library in the Department of Building will be available for reference, and technical enquiries on all aspects of building will be welcomed by the head of the department, who will work closely with the Ministry of Works Technical Information Section in operating the service.

If necessary, the Ministry's Technical Information Officer will visit sites and discuss problems as they arise.

At the A.A.

June 20 at 6.15 p.m. Informal illustrated talk, "American Architectural Impressions", by Eric Defty. Colour slides together with drawing from the office of Skidmore, Owings & Merrill. At 34 Bedford Square, W.C.1.

In Parliament

Factory Building Policy

Mr. Harold Wilson asked the President of the Board of Trade how many proposals he had rejected for building factories and factory extensions in Development Areas over the past six months; and if he would make a statement about his policy in this regard. Mr. Derek Walker-Smith, the Parliamentary Secretary, stated that no application for an industrial development certificate for a privately financed factory had been rejected in a Development Area in the period. As regards applications for the building or extension of Government-financed factories, no precise figures of cases rejected were available, as no statistics were kept of inquiries or proposals which were tentative or obviously without claim on Government finance. However, no applications outside this latter category had been finally rejected in the period in question. But in view of the need for the strictest economy in Government expenditure, it had been necessary to defer consideration of all proposals for the provision of new Government-financed factories or extensions under the Distribution of Industry Act save in a very few cases of special importance and urgency. The applications which might qualify for this special category were under consideration, and the remainder had been deferred. The latter would be reviewed as soon as economic circumstances permit.

Mr. Harold Wilson saw this as a major change in Development Area policy; and further, as a Government refusal to build factories, many of which might be essential, on public account, while there was no control on inessential private factory building. Mr. Walker-Smith refused to accept the "change of policy" description. It was "a change in the tempo of the application of the machinery of the Distribution of Industry Act". But Mr. Wilson, and later Mr. Douglas Jay, would not accept this, and the Opposition are to seek an opportunity of debating the announcement. (June 5).

Burst Pipes Survey

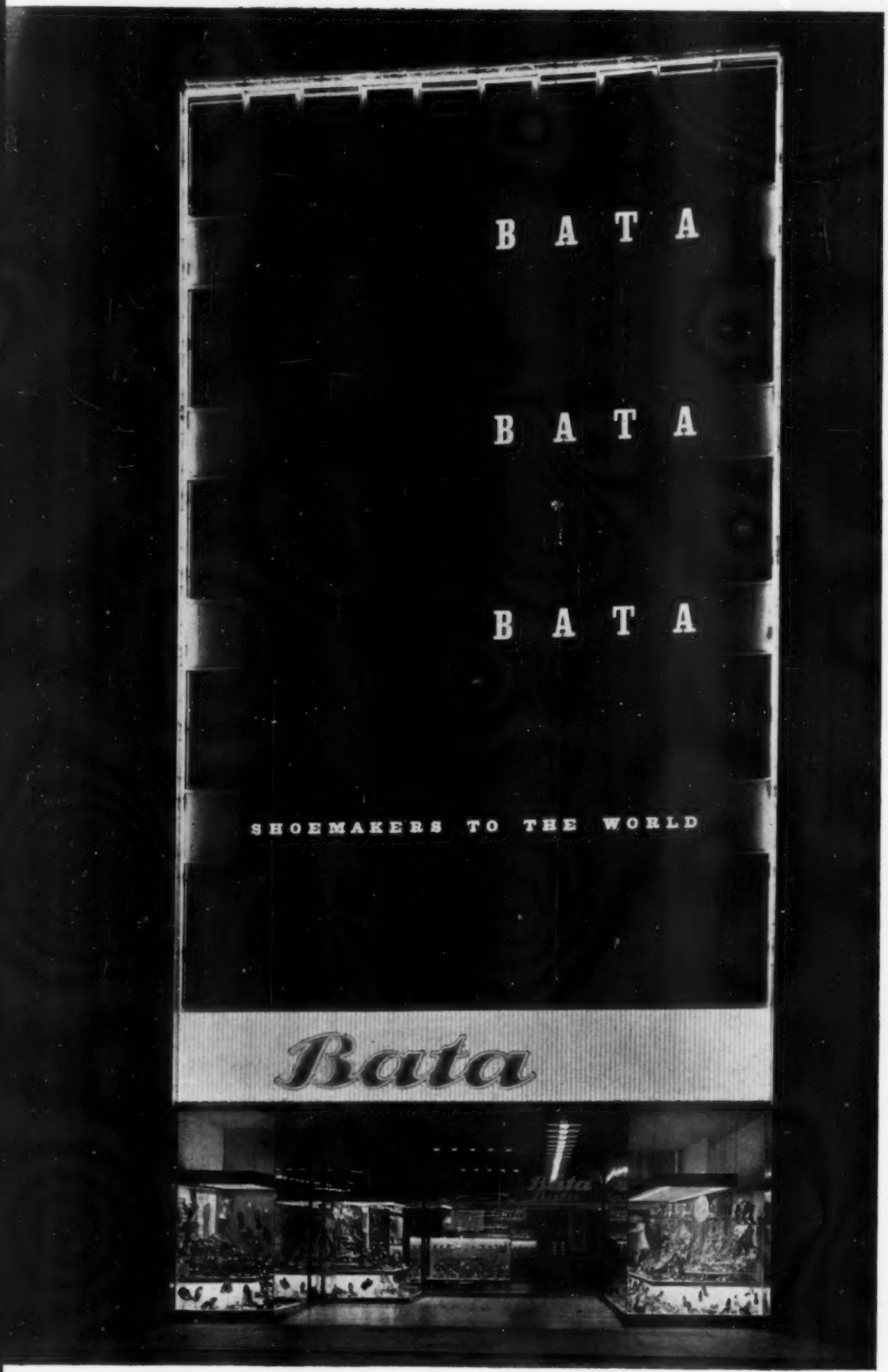
Mr. Hastings asked the Minister of Housing and Local Government if, as a result of the departmental inquiry, he could give an estimate of the extra cost to local authorities resulting from burst water pipes in houses owned by them during the winter of 1955-56; and what advice he was giving to local authorities for the avoidance of inconvenience and loss resulting from burst pipes in the houses they were building. Mr. Sandys said that the first stage of his inquiry into the problem of frozen pipes was completed. A survey, covering about one-quarter of all houses owned by local authorities in England and Wales, had been carried out with the object of ascertaining the causes of trouble. The information derived from the survey was being studied, and the results would be discussed with the professional trade, and local authority associations principally concerned. In the light of these discussions he would decide what action should be taken. (June 5).

District Heating Schemes

Mr. Woodburn asked the Secretary of State for Scotland whether he would examine the possibilities of using heat from electric stations for domestic heating in district housing schemes in Scotland. Mr. J. Stewart said that the Scottish Electricity Boards were willing to co-operate with local authorities in investigating the possibilities in any particular case, but experience tended to show that such schemes were justified only in very special circumstances. (June 5).

Surface Shelters to Stay

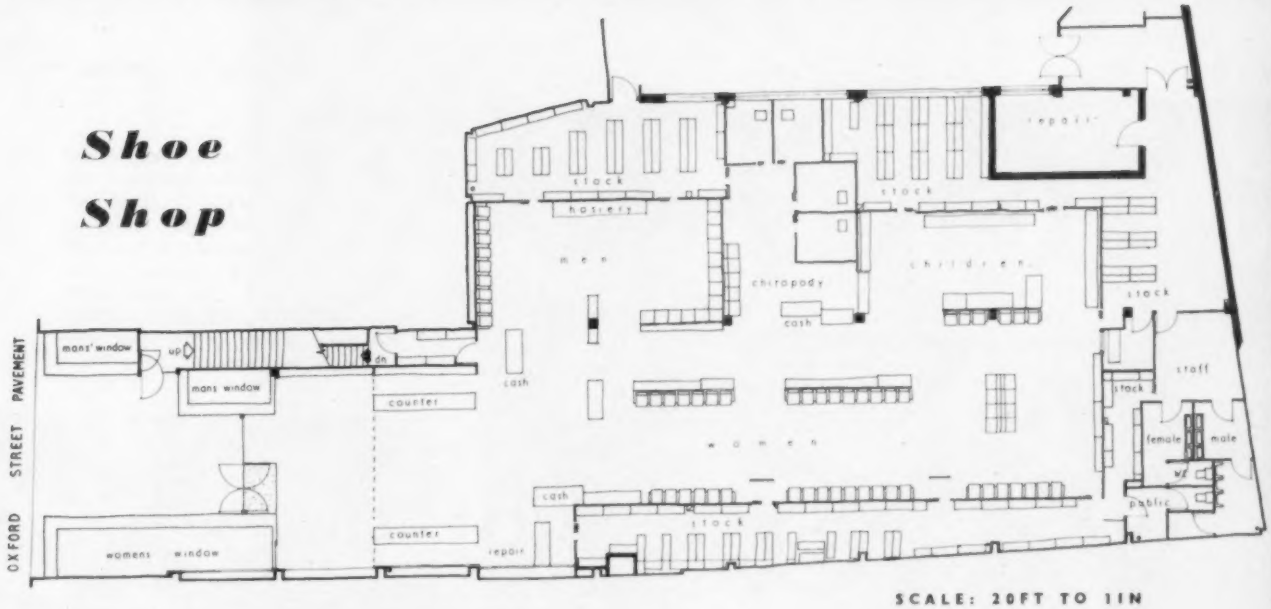
The Home Secretary was asked by Mr. Snow (Lab.) and Mr. K. Thompson (C.) to authorise the demolition of air-raid shelters where local authorities considered this was justified on grounds of health and economy. Major Lloyd George stated that these shelters would give protection outside the area of complete devastation from a hydrogen bomb and, while he appreciated that many were unsightly and inconveniently placed, he was satisfied that the balance of advantage lay in retaining them for the present unless there were compelling grounds for removal in individual cases. It was desirable to retain central control over demolition of shelters at public expense, but permission to demolish was readily given when it was shown to be essential on medical grounds or if a shelter was beyond economic repair. (June 7).



Daytime view of Oxford St. facade. Both the ground floor shop front and the cladding for the upper office floors were designed as one scheme. The cladding is "Wall span" curtain walling with lime yellow and dark green Plyglass.

Street front by night. The neon lettering which during the day harmonizes with the elevational treatment dominates the street front when illuminated.

Shoe Shop



SCALE: 20FT TO 1IN

architects: KATZ & VAUGHAN

THIS is British Bata's first venture into West End shopping and an existing shop has been completely modernized to provide 7,000 sq ft of floor area for sale and service departments for shoes and their accessories. The upper floors are used for offices.

The design approach was to integrate illuminated signs into the architecture of the street front and the architects consider the composition "was almost an exercise in typography" but the result is a street façade that is simple and clean cut by day and dramatically eye catching at night.

Layout of the sales departments and location of stock, fixtures and display units was planned for ease of service and selling. Quick-selling bars on either side of the entrance serve shoppers buying hosiery, textiles and easily purchased shoes like sandals and slippers. Inside, pre-selector counters are situated at vantage points in the shop and these feature on display the shop's entire range of stock. Customers are thus able to walk round and choose their shoes by personal examination but without obligation to buy.

Each of the three sales areas—those for men, for women, and for children—are backed up by their own stockrooms and these have a storage space for a total, at any one time, of 15,000 pairs of shoes. Each section also has its own cash desk and centrally placed to the whole shop is a chiropodist department which has four cubicles for private consultation.

P★

Men's department (above) The mirror on the left was introduced to give an illusion of greater depth in this tightly planned section of the showroom. Beams suspended from the ceiling form light troughs for indirect lighting. Wallpaper on the left, has a black background with yellow stripes and the stockroom partition at the back is dark blue and white. Carpet is dark grey and light grey.

General view of the ladies' department (below). Partitions, on the right side of the cut, screen stockrooms and are lined with Cole's olive green wallpaper. Lines of fluorescent tubes contained in light panels of plyglass sheets are reflected in the mirror on the far wall. The display-wall-screen in the background is sulphur yellow and stockroom doors, on the right, are fronted by full length mirrors.

Children's department

Shoe Shop

Entrance lobby has a peacock blue ceiling and a dark green terrazzo floor with grey stripes. Ceiling light fittings continue in a long line into the shop interior and are carefully spaced so that their reflection in the glass and internal mirrors form a regular pattern.

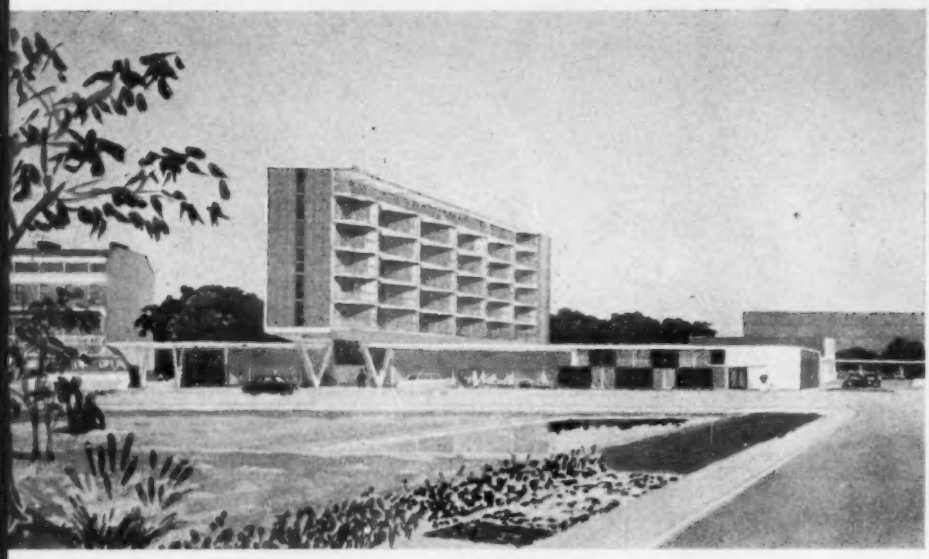
Children's department (below left) was decorated to make serving of children easy and diverting. The decorative ceiling in white fibrous plaster coloured with primary colours was designed by M. Meyersohn, and the incised lino mural on the left-hand wall is by F. Osiecki.

One of the quick sales counters (below) on either side of the entrance before entering the sales room proper. The ceiling was dropped to 7ft above the floor to conceal the underside of a lift shaft for the offices above. Part of the ceiling is lined with mirrors to create an effect of a suspended canopy.

General Contractor:
James Miller & Partners.

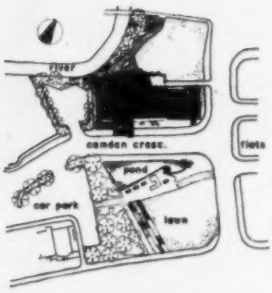
Sub-Contractors:

Carpets and Lino: L. & S. Carpets Ltd. *Curtain Walling*: Williams & Williams Ltd. *Electrical Installations*: Etna Ltd., Birmingham. *Fibrous Plaster*: Clark & Fenn Ltd. *Glass*: Shepheard Tobias. *Heating and Ventilation*: Couzens & Akers, Birmingham. *Ironmongery*: A. Roberts Ltd. *Light Fittings*: Fluorel Ltd. *Neon Sign*: Pearce Ltd. *Shop Fitting Contractors*: Sycamore Ltd. *Terrazzo*: Marryot & Price.



View to South looking over garden in foreground

SITE PLAN



Proposed Coach Hotel, Dover

NOW under construction in Dover, is this coach hotel which should open in March 1957. It will cater primarily for parties travelling by motor coach but will also accommodate ordinary travellers if there is room.

The site is almost on the waterfront and is separated from the sea by the promenade and another building plot. This plot is vacant and the local authority has agreed to develop it as gardens — to the architect's suggested layout.

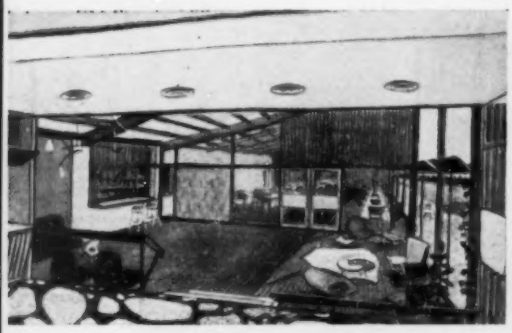
Reference to the site plan will show that the hotel will be surrounded by four roads and as the one to the the north is the busiest, public bars have been positioned on this side. Dining rooms and lounges on the ground obviously need to look out over the water front to south and bedrooms will be concentrated in a thin tower rising above them.

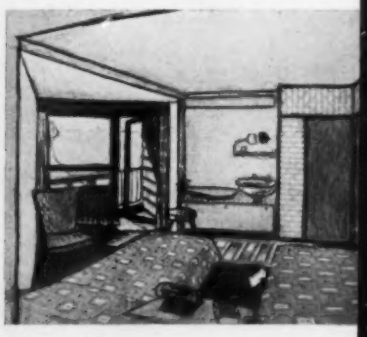
It was logical that bedrooms should face the harbour and seafront but rather than build an east-west slab of south facing bedrooms, the design allows for a central block running north-south with most bedrooms facing east. However, each bedroom has its own balcony which splays obliquely towards the view.

There will be 40 double bedrooms and some single rooms. In each of the large bedrooms a folding pallet will be fixed to a wall for use as an extra bed when the hotel is full.

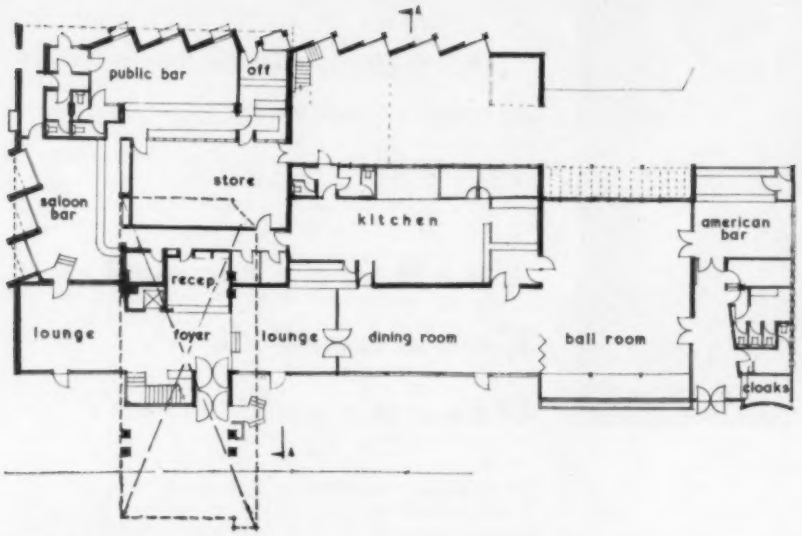
Provisional tenders from larger firms all exceeded cost estimates by some 25 per cent., so to bring down the cost, smaller local builders were invited to tender As such contractors have not the necessary plant and equipment to cope with speedy erection schedules, the architects simplified this job as much as possible by the use of prefabricated units. This eliminates much "wet-work" for the units will be delivered to the site direct from sub-contractors workshops.

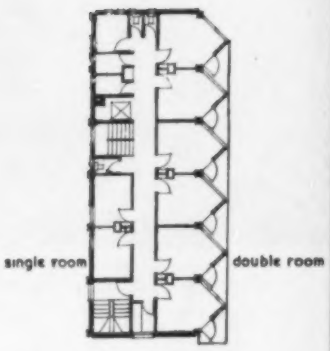
All bedroom floors will be sub-divided by pre-fabricated partitions that will have fittings—washbasin, towel



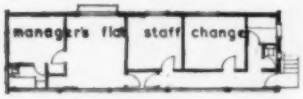


Sketches of the Foyer, Lounge and a Bedroom





MEZZANINE ABOVE PUBLIC BAR



GROUND FLOOR

SCALE: 32FT TO 1IN

A BEDROOM FLOOR

architect: LOUIS ERDI

General Contractor: R. J. BARWICK & SON

racks, cabinets, shelves, etc.—fixed in position before installation.

The building will have sectionalised heated areas which will all be controlled from switches in the reception office. Convection heaters in the bedrooms will be switched on from this point only when the room is brought into use, and the same principle applies to most of the public rooms which will be warmed by electrically heated air being pumped through ducts in the ceiling and down side walls.

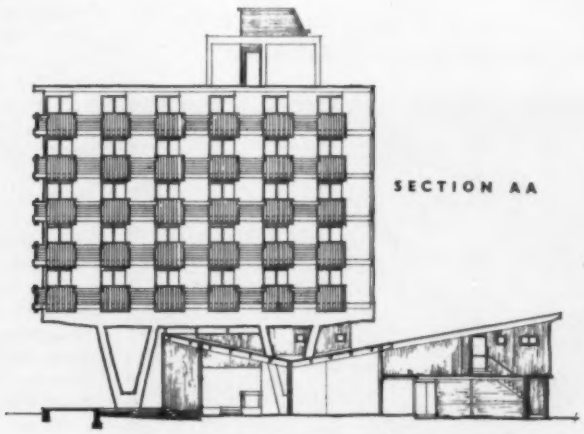
The converse will apply to the ballroom where warm air will rise from grilles beneath windows. The architects consider this "curtain" of warm air in front of the glass will be an economical method of heating this large room quickly and efficiently.

Thermostats control the whole heating system and as the consumption of electricity is fixed at a maximum of 85 kW. at any one time by the rate payable without excess charges, circuit breakers will cut off power from the rooms in order of importance so the total load cannot exceed this maximum.

The building will be a reinforced concrete framed structure and to eliminate rows of columns penetrating and breaking up the foyer beneath the bedroom block, this section is to be carried on four sets of double columns supporting two heavy longitudinal beams. Between these beams a false ceiling will form a 6ft high duct inside in which will be concentrated main services.

Externally the bedroom tower will be faced with glazed timber frames or pre-cast concrete slabs. On the block's end walls these concrete panels will be finished with a coarse aggregate of red marble chippings and small fines of white marble.

Main Entrance



SECTION AA

BRITISH ARCHITECTS'

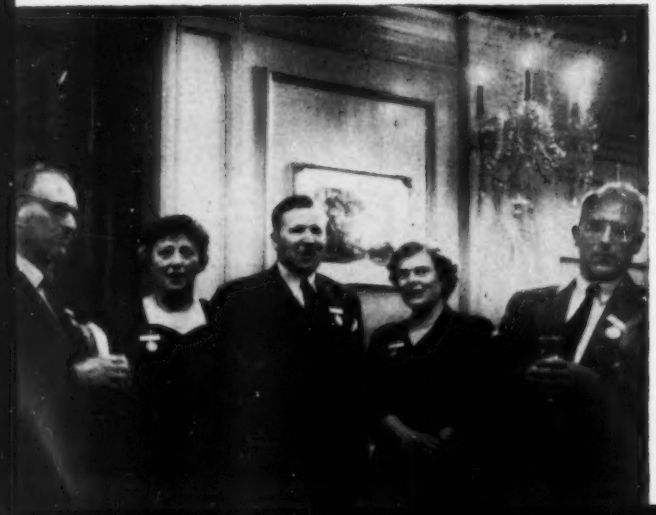
CONFERENCE, NORWICH

Architectural Economics Discussed

The President makes his inaugural address . . . .

while members listen or take notes

At the informal reception in the Assembly House



THE paper "Architectural Economics," by Dr. J. L. Martin, Architect to the L.C.C.; Mr. E. D. Jefferiss Mathews, Hon. Sec. R.I.B.A., and Dr. J. C. Weston of the B.R.S., was circulated before the conference. Synopses of the paper and extracts from the discussion at Norwich are reported in this article with snapshots taken at the conference meetings and social gatherings.

FIRST DAY

Mr. Jefferiss Mathews: "Early in my paper I have mentioned a statement that I accept may well be controversial 'Architecture is the only art that is wholly related to economics.' I personally believe that to be completely true and in saying it I don't belittle the importance of the other representative arts of the community but we alone, so it seems to me, cannot separate or divorce our art or our science from the question of economics and economy—a rather dreary word perhaps and one which is often misused and perhaps more easily described as value for money—costs in relation to the results, and by no means meaning that cheapness is right. Cheapness is often uneconomical and equally something expensive can often be economical. That is the theme for our paper and I hope it will encourage comment and criticism so that we can have a really live discussion.

"Dr. Weston is going to deal with the thing from a factual point of view as to where we can seek out information and knowledge which we must know to advise our clients and Dr. Martin will give us some of the experiences of dealing with this cost aspect in relation to building costs.

"I feel that this subject can so easily be dismissed in a very short statement but the more we go into it the more I think we all find that there is something fresh and something new for us all to study. Obviously we are all doing this in various ways in the course of producing our buildings but it is to me quite astounding each time how one tackles a new building how one finds there are new aspects to its cost in relation to matters which on the face of it appear to have nothing to do with us.

"I have brought that point out by saying that we do feel we have a duty to our clients, often to put these thoughts into their minds and to make them in certain cases, because they alone can do it, to make inquiry and together to evolve the right answer.

"Personally I find it is most exciting and stimulating to see how the effect of such economic or cost studies in relation to the client's house and the building can have the most major and sweeping effect upon our design in all aspects. Not just simply whether the finish is going to be more expensive or of lower cost but in the actual whole form and creation of the design. It is for that reason that

I for one am convinced that it cannot be separated from the pre-consideration of the design. I suppose in the past this was less noticeable but I feel as I have mentioned in my paper that in fact it was present in one form or another. Often going right back to the building of the medieval cathedrals such records as are available to us we find that they were very conscious of the economic aspect and I think we are wrong if we feel we of our present generation are alone in having to contend with this aspect. Apart from the obvious building, a folly in some aristocratic park—a thing seldom if ever done now—building for whatever purpose must have some cost value relationship to those who are building. That has been the case through the ages. Therefore we are following in that tradition of progress if we study these now and perhaps because of the present overall national and in fact international circumstances it becomes a more careful study—as in fact we all know, so everything in our particular art and science has become more intricate and needing careful study and in fact greater knowledge and use of people with expert knowledge to blend into the team. That brings us to the closely related point in the study of economics and that is the need today of designing on a team basis in collaboration with the other experts, engineers and quantity surveyors, in which we must be the leaders and in which we must also study their requirements as they are experts in their particular line.

"I have given two very outline examples of what one might call the lower scale of expenditure—a typically small house and the other, chosen at random, of more intricate building. I have mentioned and touched on what I call the outside things which affect your choice as much as the direct requirements of our client.

"One aspect which I have personally found to be important. Although the same basis, the same artistic measurement, must always be at the background in order to base our comparisons it has often developed that the artistic itself has to be changed. I have found that, for example, a client may come with a certain accommodation requirement and a certain limit of cost. Now the study will often show that possibly that accommodation requirement, which I call the artistic on which to base comparisons, is not appropriately related to the limit of cost on what can be built, that the accommodation is insufficient or is over elaborate and here we have this very important duty of ensuring to our clients that what they are asking for is directly related to their economic expenditure.

"As I have mentioned it has frequently been my experience, not only that the accommodation is too large for the requirement but equally on the other hand that what they are asking for is an uneconomic expenditure for the accommodation requirement and revision, often on the upgrade, is necessary. What we want to discuss is giving our clients value for money."

Dr. J. C. Weston: "The important question for us to consider in this conference are the methods whereby cost information can be made available and can be made part of the thinking in the design process.

"First of all, it is important that data relating to previous jobs of a particular architect or other organisations shall be available from the outset. The subject that has come to be known as cost analysis has an important part to play. Essentially, it involves taking data available in priced bills of quantities and arranged in such a way that each element, component of the building, are apparent, rather than the normal form of bill in which cost or prices are shown by trades. There is no real difficulty in my mind in obtaining information in this way even from the present type of priced bill. It does require close collaboration between the architect and his quantity surveyor. There is a developing interest in an alternative way of presenting bills of quantities themselves—what has become known as elemental billing. In the bill the data is presented in the form of the individual elements or components of the building. I think some of those here today have had experience of using bills in this form, and I hope they will make that experience available to us. It is a subject very much in its infancy and there is scope for differences in method and controversy as to what is the best method, but I think the important thing is that we have a move in this direction and, if available, at an early stage in design, information in the form which I have shown as an example in Table 1 of my paper.

"Not only has the architect to take into account his own earlier jobs, (this would apply particularly to smaller offices). He must rely on published information as obtained by other architects on similar work. In this connection I

TABLE 1
Cost Analysis of Multi-Storey Flats
Prices per sq ft nett

Component	*Project A*	*Project B*	*Project C*	*Target for cost planning*
	s. d.	*s. d.*	*s. d.*	*s. d.*
Substructure	3 3	3 6	6 3	3 6
Frame and walls, floors, stairs & roof structure	20 4	20 2	15 2	17 6
Partitions	0 8	1 0	1 0	1 0
Plumbing and heating	6 3	6 3	7 1	6 6
Joinery	4 3	4 4	4 5	4 3
Plasterwork	3 2	2 11	1 11	2 6
Floor finishes	2 2	2 11	2 0	2 0
Painting and glazing	2 5	1 9	2 3	2 0
Windows	1 8	1 6	1 2	1 3
Electrical	2 2	2 3	2 11	2 3
Steel and ironwork ..	2 4	2 0	1 4	1 6
Roof finishes	0 10	0 7	0 8	0 9
Lifts	4 2	2 10	2 10	3 0
Total	53 8	52 0	49 0	48 0
Storeys	8	9	10	
Nett area	35,000	37,000	22,000	
Gross area	47,000	46,000	28,000	
Area ratios of typical upper floor :				
Nett/Gross	0·81	0·85	0·84	0·84
External wall/Nett	1·12	1·11	1·14	1·12
Partitions/Nett ..	0·80	0·96	0·40	0·80

At the Garden Party the Bishop of Norwich shows members his garden

Architectural Economics

would welcome any separate publication of cost data relating to building design.

"In preparing cost analyses as a basis for future planning it is important to include information not only on cost but on the areas of the various elements of the building. These figures analysed are quite useful. For example, take the case quoted in the paper. We found in a recent study of the cost of high flats that the planning ratio of habitable area to the total area varies quite considerably from .7 to .9. I would not suggest for one moment all flats should be planned as the basis of 10 but fairly close study of designs shows that something like 15 or 16 per cent. for access areas allows for good design. Flats with 30 per cent. access areas were quite a bit more expensive than they need have been. With flats costing at a minimum of 50 or 60/- per square foot gross, 10 per cent. on the area is quite a considerable thing.

"Another aspect of architectural economy to which I would draw your attention is the whole question of production aspects of building. So often the architect is content to say the builder or contractor will know how to do that and we will leave it to them. Buildings always get built, but whether they are quite as the architect intended or as economical as they might have been is doubtful. It is questionable whether shuttering design should not form part of the contract and be undertaken by the architect. The cost of shuttering is often greater that the cost of the concrete which it encloses."

After referring to the table in his paper, Dr. Weston continued: "I think we have to face the fact that prices will go on rising over the next 10, 20 or 30 years and maintenance and running costs are likely to go on rising to the same extent. Therefore, in considering present value of future expenditure we must make some allowance for that and I have suggested this could be done very simply by imagining that all loans are for an infinite period, 999 years, longer than any of us will live."

After quoting the illustration in his paper, he said that another example sprang to mind in the planning of rural schools. "Is it better to centralise education, to build a limited number of large schools and have in consequence a large bill for transport, £50,000 to £150,000 per annum," he asked, "or would it be better to spend more on a number of smaller buildings and reduce transport. I am not offering a solution. The answer depends on the circumstances of a particular authority, but considerations of this kind of exchange rates between running costs and first costs would enable the problem to be approached on a rational basis.

"We often look at maintenance costs of local authority housing and in these cases we find maintenance costs over the life of a house are equivalent to only about 18 per cent. of the first costs. In fact, when that figure is broken down further, there are only one or two items in which maintenance costs form a higher percentage of initial costs —water. Results given in table 3 do suggest we could achieve a better correspondence between initial and maintenance costs. We would be justified in higher initial expenditure if we could find materials and methods which would lower our maintenance costs. I am quite sure the majority of you are well convinced of the importance of striking a better balance between function, quality, appearance and cost.

Dr. Martin said building schemes financed by public funds involved large expenditure and it was important for the whole profession that the expenditure was wisely controlled. "The very fact that these programmes are large and that they are programmes lends itself to an attack from the point of view of technical economies. I have put down two main headings where I think the attack should be made.

"One is this heading of research. We ought to have side by side with developing programmes developing research which produces exact knowledge for all architects in the profession. You really have two alternatives. Either you develop architects who are specialists in certain types of building, hospital or school design,—personally I think architects dislike specialists and they want to work on all kinds of building, they work on all kinds of building when they are training, but there should be specialist knowledge on these buildings available to the profession as a whole. Rather than develop a series of individual specialists, my view is the profession would be stronger if we had information by specialists available to the whole profession.

"The building programmes that are going on throughout the country are excellent opportunities for investigation of costs. If that investigation is systematically carried out there is no reason why it should not be available to the whole profession. Neither good doctors nor hospital boards had all the factual data about the requirements of hospital buildings. They work on an idea, hunches or notions—you know only too well if an individual building is designed on the basis of hunches, it can be very wasteful; and if you get a whole programme designed on that basis it is very wasteful.

"We have had in school building an enormously impressive experience. In the case of primary schools, from 1951 to 1955, this country has spent £52.5 million. If these 1951 costs had been allowed to rise in relation to the rise in costs of materials and labour, the cost of that programme would have been £58.8 million. They were not allowed to rise because from the centre, as it were, there was a definite effort to discover how the parts of the building could be used, and how reasonable economies could be obtained which would still leave the school a good working unit.

"The £124.3 million spent on secondary schools might have been £146.9 million. That saving is almost entirely due to the work of the research team of architects who have assisted with the school building programme, and I think we ought to underline that point. There is a very important saving made by architects.

"You can put it another way if you wish. If you look at the amount of school building and the number of places you can buy with £1 million, and follow that through year by year, you find the number of school places you have been buying has remained pretty constant. You would

TABLE 3

Maintenance Costs of Local Authority Housing

Item	*Maintenance cost as percentage of annual maintenance costs*	*Maintenance cost as percentage of initial cost*
External painting	32	100
Water service	17	84
Heating, cooking, lighting	14	33
Internal structure and finishes	14	7
Main structure	10	5
External services and site works	8	20
Sanitary fittings	5	22
Total	100	

have expected the cost to rise and the number of school places to have dropped. In 1951 we built 6,580 primary school places, in 1952 6,820, in 1953 6,790, in 1954 6,640. That is extremely impressive. We have been able to purchase with £1 million the same number roughly of school places in spite of costs rising the whole time. This is a case where the profession as a whole has achieved results and that is what we want to see. It is not a case for individual attack by one section of the profession.

"I hope that this great profession of ours is not going to be afraid of research work, or is not going to feel that research work is going to do its job. That is not the purpose of research. The purpose of research is not to make decisions, but is to provide facts and architects themselves must make decisions. What research attempts to do is to provide more and more facts on which architects can make more and more competent judgment.

"Research costs money if it going to be done well. I don't think it would be wasted in any way. I think there could be nothing worse than every individual architect trying to do his own bit of research. The point to attack is at the centre and the people who should be doing this research work are the people at the Ministries, the D.S.I.R. or the universities.

"The thing we have to explain to the public, I think, is that sometimes you have to spend money if you want to save it. There was an official architect who proudly reported that three men working on development had saved £25,000. He was asked why he needed three men. The point was that if he had had six men he might have saved a good deal more. The point is fixed in people's minds that architects are men who spend a lot of money, and we have now to convince people we also have the means of saving a great deal of money. If our national programmes take into account the possible savings which are now apparent through research work, I think those programmes can be more wisely governed and we could spend our money a little more systematically. I think the whole field of building is a great opportunity for the widest possible experiment and the widest possible series of cost comparisons. How it can be organised I don't know, but perhaps that is something this conference could profitably discuss."

Mr. S. N. Rose (Ministry of Education). He thought it might be relevant to Dr. Martin's paper if he outlined the method of cost control and the architect/quantity surveyor liaison which was currently in use at the Ministry of Education.

"Suppose we divide the work in the architect's office prior to the quantities stage into investigation, design and working drawings. At the end of the investigation period the architect will be aware of the approximate area he is to provide. He now operates his first control by choosing a cost per foot super of floor areas for the proposed project. Floor area has been selected because it is a more accurate measure of accommodation than the cubic foot, and for the client accommodation is the thing which really matters. The architect's design from now on is always related to cost. I can sympathise that to begin with this may produce a feeling of irritation and may be to some degree irksome to the artistic side of his nature, but if he wishes to keep the cost reins in his hands he has to accept what amounts to discipline.

"Meanwhile a sketch design will be available—which may be no more than an outline plan—and the architect can provide some rudimentary indications of the standard of construction finishings, services, etc., required, together with an idea of the conditions to be met with on site. The more complete the information the better, but the exercize is not invalidated if some item is missing at this stage. In such a case the architect makes an assumption which he considers reasonable and which he later confirms.

(L) Mr. Donald Gibson chatting with Dr. Martin at the Garden Party

"Armed with these details the architect and the quantity surveyor now meet to prepare the cost plan.

"To begin with, it is prudent to make some allowance for uncertainties. The exact amount of allowance is bound to be conjectural, but 5 per cent is a reasonable figure to act as a buffer, and this is deducted from the cost per foot super that we have just mentioned giving a new and somewhat reduced target.

"Since the total cost per foot super would be too insensitive a control of itself, in our cost plan we consider and allot a cost per foot super rate to each individual part of the building (for example, external walls or roof) which we call an element. One or two cost analyses of other reasonably similar jobs should now be produced from our files kept for this purpose; we do not require a large number of analyses for we are not particularly interested in averages. Where the building is a first-off and we have no similar analyses in the office, then there must be some improvisation such as a resort to data published in the technical journals and relevant portions of analyses of dissimilar jobs in our own office. But I cannot too strongly emphasise the advantage of intimate knowledge by both the architect and the quantity surveyor of the quality of the jobs to which the analyses refer and we think it is always worth while for a visit to be made together to the building so that discussion of its specification in relation to its analysis is upon a common basis.

"The analyses we are producing today are rather more elaborate than those illustrated in Dr. Weston's paper. There is a good deal of tabulated information, including quantities and ratios, together with brief specification notes. The corresponding quantities and ratios are now calculated from the sketch design for the job with which we are concerned and we then have all the necessary information as assembled for commencing the cost plan.

"The choice of a cost per foot super for each element will be based upon the specimen analysis. Few of the rates shown there will be accepted without alteration because they will have to be adjusted for fluctuations in building prices, differing quantities and differing standards of quality. Fluctuations are dealt with by applying a percentage adjustment obtained from office records. The adjustments for differing quantities are made from the areas and ratios by simple proportion, and in the case of differing

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standards of quality those can be taken into account either by a direct calculation or by assessment. Perhaps this sounds laborious. I assure you it is not so and for those who might be interested in experimenting with the technique a complete description of the process is included in the first revision of the Ministry of Education Building Bulletin No. 4, which will be published quite shortly.

" Upon adding up the cost per foot of the floor area of the individual elements, if the total exceeds the amount allowed the cost plan must be pruned until it comes within the target. If on doing this the architect is of the opinion that the quality of the building is too low then he must either reduce the area provided or obtain approval to higher cost limit. The value of being able to present a reasoned case on cost—which the cost plan provides—to the client as early as the end of the "investigation" phase will be only too apparent. The client will have much more confidence in the architect and the architect will be much more confident that what he designs will ultimately be built.

" The cost plan being completed, we can translate all the costs per foot super for the individual elements into sums of money by multiplying each by the area of the building. The cash value of each element, you understand, will now total up to the total cost to which we have limited ourselves, or to which we have been limited.

" The architect is constantly interested in comparing the costs of alternative materials and methods of construction. The cost plan provides him with a handy guide, because since quantity and cash available are fixed, a rate per unit of measurement results for his immediate use in his enquiries, e.g., 30s. per yard super for partitions."

Mr. C. M. Nott, Hertfordshire County Council: " One of the most important points underlying the three papers was pre-planning. It entailed the earliest possible co-operation between architect, quantity surveyor and client to pre-plan the bounds of the scheme and the distribution of the cost of the integral elements of the project in order to ensure that the scheme for which tenders, competitive or negotiated, were obtained was the one on which the contract was formed without the need for ruthless cuts in cost by changes of specification or radical alterations of design before the scheme fitted the client's purse; and also to eliminate variations during the course of the job.

" Building costs today carried in the prices a large element of risk which the contractor had to take on the locked-up capital because at no stage in the jobs could one get an accurate interim assessment to make him the proper payments for work he had done.

" If it became an established practice that the job could go through smoothly without these adjustments, contractors would not have to cover for that risk at 5½ per cent on every £100 of locked-up capital.

" The fact that the tempo of building has been high since the war has also added to the costs. Pre-planning could have saved some of those costs. "More haste, less speed" was translatable into building language as "More haste, more cost", in the sense that more precipitancy led to less rate of progress.

" They had to start thinking of the training of students today so that they grew up thinking of architects and quantity surveyors as a team and got a very wide common background. Architectural students should be allowed to see a quantity surveyor or two during their training. Similarly, quantity surveyors needed an economics paper that dealt with economics as applied to building and was not just theoretical.

" Dr. Weston had posed the question as to who should accumulate data for cost analysis. He (Mr. Nott) felt it must be the quantity surveyor's task to begin accumulating the very detailed information but that did not exonerate the architect from trying to know as much about pricing as he knew about rates and prices today. The quantity surveyor should have the more exact knowledge of the adjustments necessary to take into account rises in prices, variations in economic conditions, restrictions on site. The quality of job management of the contractor handling the job also had a very serious effect on the level of prices.

" If one was negotiating a tender based on a bill of quantities, then the elemental bill was ideal and the number of elements and sub-sections could be mutually arranged to suit the future production of more detailed cost analysis data than usual and/or to assist the general building contractor in progressing the works with final detail than was afforded by what had come to be regarded as the standard 19 heads for a multi-storey framed building.

" The pattern of this approach had not yet crystallised, and what was needed now was for a large number of people to try in a small way to suit themselves to one of these experiments in cost planning and cost control."

Mr. Cecil Howitt (Nottingham) felt that one point had not been stressed quite enough—early negotiations with the contractor. Admittedly, it was not known who the contractor was at the outset, but a little information could be obtained from, say, three contractors used to the particular kind of job so that final alterations or re-tendering could be saved.

On his point about consulting the contractor, he quoted an instance in 1922, when house costs averaged about £430, of being asked to produce one for £300. He had a seven days' conference with speculative builders and learned more in seven days, he said, than he would have learned in seven months from architectural or constructional books. The first thing he learned was that it could be built on a narrow frontage. The next was that by putting the third bedroom in the roof, it was possible to obtain a floor area of 820 square feet net. When the tenders were opened they were actually for £298 10s. Hundreds of those houses were built and they were still standing.

The contact with the builder, he pointed out, enabled the architect to keep abreast of mechanical developments. New ideas were constantly being evolved. In the case of the Lever building, in New York, for instance, it was 85 per cent. workshop made.

Mr. Winton-Lewis: " It was difficult to get smaller commercial firms to understand there were advantages in pre-planning. If they bought up a property intending to use part of the building and let the rest, they wanted the building put up as quickly as possible and did not take kindly to the architect who said that six months over the normal time was needed so that it could be adequately pre-planned. The firm would take a building similar to one they had round the corner and would hope for the best.

" Furnishings were related very much to our system of and unit of measurement. Feet and inches were a most inconvenient form of measurement whereas the metric system was highly desirable. But who was going to introduce it ? "

Mr. Gordon Steele: " The purpose of research was to give the building industry the information to make the right decisions, and to give them the information quickly and in a useful form. Every architect's wastepaper basket was daily filled with evidence that the information was there, but it was quite impossible for the architect in the course of his day's work to keep in touch with the steady stream of

stuff that appeared. This was partly because the information was put out in so many different ways and without sufficient appreciation of the needs it was supplying.

"The information should be supplied in a form free from commercial and sectional interests and by some form of national organisation. A lead had been given by the National Federation of Building Trades Employers in the advisory service advising contractors on site organisation, mechanisation and productivity."

Mr. Steele would like to see some form of organisation distributed regionally throughout the country with as many centres as could be managed, as a pivotal point of a two-way traffic, in one direction passing on information which came as a result of research, in the other direction answering the queries of architects, builders and engineers or referring them to quarters where answers could be given.

Mr. Clifford Culpin said that Mr. Jefferiss Mathews, in indicating the scope of his subject, had taken as the lowest limit the small house.

" In considering small house design for private enterprise we are treading on difficult ground, for the building societies have in the past tended to consider an architect designed small house as a bad investment, while they have jumped at the chance of putting money into the normal bay-window "semi".

" Now, however, I think we are winning them over, but in any case, while at the time of erection an architect's design may not have been welcomed by the building society, after the house has become established it almost always increases in value, and the skill that the architect has put into it has created the additional value.

" The old, sound custom of architect-quantity surveyor collaboration has been, in my experience largely destroyed by the custom of the new type of client, the public body, appointing its own quantity surveyor without reference to the architect.

" In my own medium sized practice we have no fewer than 13 firms of quantity surveyors working with us, most of them having been "wished on" us by clients. This very largely destroys our chances of intelligent analysis of the costs of different systems of construction in different jobs and is, in fact, rather silly. I would, therefore, urge those local authority architects here who advise their councils on the appointment of outside professional men to recommend those councils most strongly to allow the architects to nominate their own quantity surveyors."

SECOND DAY

WHEN the conference resumed on Friday morning, **Mr. Jefferiss Mathews** summarised the points which had come out at the previous day's discussion and on which he suggested the day's discussion should hinge.

Dr. Martin: " These papers do reflect the developing pattern of the profession. I see the thing as something which divides into three distinct groups of work. I would put first that group of work which deals with research. There are very few architects working in this field, but their work is immensely important and this conference ought to give them the strongest support. They are the pioneers, as it were. I regard the work of these pioneers as of tremendous importance of the profession as a whole.

" The second group are the general practitioners, people like myself who are working on these broad programmes of work. I would expect these people to be aware of the research work that was being done and to be extremely interested in the way it was done. I would expect also their main function to be the development of experimental work in the field, on the ground. I would expect them to look into these questions of the economics of building, the practical side of things, and be able to spread that information throughout the profession.

" The third group is private practitioners working for private clients, in close touch with clients. I would not expect that kind of practitioner to be tremendously interested in the detail of the work that is being done, but if he was expected to design a hospital ward, for instance, I should expect him to know where to go for the information. When they do go for it, they might have to read a serious paper. It is not just a question of receiving it through the post as a series of pamphlets which you can absorb really easily. You really have to work at it."

Another point made by Dr. Martin was that it might be useful to have study groups as a method of following up conference discussion.

Mr. G. Grenfell Baines said he was a practical architect who had tried to organise control.

"Our experience is limited but already we can see it is most helpful and only a fortnight ago we decided to write to a number of selected firms saying we were willing to swap cost information with them."

How could an element be defined? What was its scope? His firm was working by comparison but unless there were firm definitions so that one knew where one really was it was easy to get into trouble. The combination of various elements could, he thought, iron out some of the difficulties of interpretation.

They had discovered in an exercise that by exposing the verticals of a structure they could save 8 per cent. on cladding and by exposing the horizontals could save a further 12 per cent. Then there was the combined element such as thinking of floor finishes—the preparation which went underneath and the scope it offered for housing services. By combining elements it was possible to get a better assessment of where you were.

The most difficult process they had found was having prepared the cost plan to work to it in detailed design. There were an enormous number of exercises to be worked out to find out where you were.

They had found that to have their own quantity surveyors at their elbow was far the better way. He did not like the idea of the Q.S. sitting in his office with the "gen" in his own files. He liked to have him sitting at his elbow as a designer—a new role for the Q.S.

Dr. Weston had quoted £285 as the maintenance costs for the life of a £1,400 house. What was the life? He knew many authorities could not work at £10 a year maintenance costs. Painting alone cost that.

His firm had persuaded one client to spend £4,000 to save a man but that was the limit. It helped in discussions with clients if one knew these things and had really studied them. It helped to put over the job and got the client to spend more.

Was there any real research into the question of flexibility or was it a myth? One industrial client had told him he would far rather move people than partitions. People were much more adaptable than parts of buildings. Was there any research into the people who had used flexibility?

On the question of the present value of £1 per annum, said **Dr. Weston,** what they had to get clear was the choice which was open to them. Did you spend your money now or did you spend it over the years? Did you spend £1 per annum over the life of the house or some capital sum at the moment? If capital was spent at the moment, presumably it would have to be borrowed, and the equivalent capital value was simply that sum of money which had to be paid off, capital and interest, over the period of the years. At 5½ per cent. on 20 years, the payment of £1 per annum would repay a loan of £12. They would, of

The President with Mr. & Mrs. James Cubitt, at the Garden Party

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course, have paid £20 over the years but that would not justify the spending of £20 at present, only £12. That represented the sum it was justifiable in spending now to save in the future.

On the other point of how far in cost analysis one broke down the individual elements, Dr. Weston said that, if the break down was into something like 50 or 20 elements, that was probably as far as they needed to go at the moment.

Mr. Percy F. Burnett said expenditure of capital and maintenance costs were material to the point made by Mr. Baines about industrialists spending more abroad.

He felt strongly about the economics of building such as the cost of land, ground rent and so on all of which came into the cost of the building. Take as an example an office building in London. To get preliminary planning consent took four months and then they began on the working drawings and made application for formal consent which took another four or five months. There were also other consents to apply for. On a not unusually large site the ground rent worked out at £400 a month and so his client who had worked for eight or nine months to get his consents, before he could start building had spent £3,500 or £3,600 which was quite unproductive. That could be called the cost of legislation.

The building had about 50,000 sq ft of floor space which worked out at 1s. 6d. per ft super of the cost of the building, there being nothing whatever that could be done about it. It could be taken further with the loss of rental value for eight or nine months at 15s. to 20s. a sq foot which amounted to a large sum. Taking in everything a private client building an office block at the present time had to allow something like 10s. a foot super for the "cost of legislation."

He was not criticising the local authorities who had their job to do but the fact had to be faced there were these huge overheads. It seemed an awful pity that architects should have to go to a lot of trouble to save 2d. or 3d. on one element when 10s. was being thrown away unproductively.

Mr. A. G. Sheppard Fidler said he had been concerned in Birmingham with a very large programme comparable, he supposed, to any carried out in Liverpool, Manchester or Glasgow or other cities of that size. It seemed to him that there was a really fruitful field for research. There was a difficulty about doing your own research. He did not suppose many local authority offices could afford to run a small research group. It would be very valuable if the large offices could be given guidance on certain points that they might look after and send information collected to the Building Research Station, the Ministry of Education or whoever was head of the research organisation. It would mean a tremendous amount of work but he was sure it would be very useful indeed.

On the question of collaboration with the builders, he said the builders had to be chosen rather carefully. He still found builders who had not heard about the visit to America of the productivity team. In Birmingham they had started a collaboration experiment by negotiation with a firm of structural engineers working as contractors and general contractors. They had used the new plate floor idea. It rather came into it as the scheme developed but it looked as if they would save a considerable amount of money through this collaboration. It showed it was well worth while doing the sort of experiment which the London County Council had been doing at Picton Street.

Although they were interested in producing building cheaply for clients they did not want to frustrate any hope of producing architecture. As a local authority architect he saw too many plans where there was no hope of architecture coming into it. If the architect had started with a sketch design and introduced the thing to his client in an attractive way he thought there might be an opportunity for getting some architecture as well as some attractive building.

Mr. John Stillman was concerned as to the way in which cost analysis could help the private architect who did not have a series of jobs forming part of a programme. It was absolutely right that architects responsible for doing a number of jobs of a similar kind should make the later ones better than the early ones in many ways, particularly in regard to cost accounting. He hoped the results would help private architects as well. They would find an effective means of cost analysis a tremendous advantage for they were always conscious of the fact that they could not always produce tenders which matched up to estimates.

He asked these questions: "Can cost analysis as described and written about in the technical Press give help with buildings which were not exactly similar; if cost analysis could not be applied in that way would elemental bills help; is there sufficient experience to show whether there is some national basis for tendering, for if not it seemed to him the system did not hold water; were there other ways of cost analysis than had been discussed?"

Dr. Weston replied it was important to get clear the relationship of cost analysis and elemental bills. Elemental bills were a way of facilitating cost analysis; they were not essential to it. It was perfectly possible to base cost analysis on a bill in its ordinary form; obviously some extra work was involved in splitting the work down to the individual trades. Cost analysis could help in predicting the cost of building which was only somewhat similar to the building for which there was already information.

There were many factors which governed the price which was entered on a bill. Some of these were what one might call strictly logical for they related the circumstances of the particular job, difficulties in obtaining labour and so on, others may be of a rather more uncertain nature, maybe managerial policy decisions on the part of the firm as to whether they want that particular job or not and while the quantity surveyor can probably deal with some of the factors there is always in prices a measure of uncertainty. For that reason he suggested one needed as a basis for cost analysis data from a number of schemes.

Mr. A. C. Barr, development assistant to Dr. Martin, said on Picton Street they had not followed the procedure laid down by the Ministry of Education for schools. On their housing work so much was known about costs of new unit dwelling. More important were such things as public access areas, balconies and so on and the department was working on the basis of breaking sketch plans down into a number of component ends and investigating a variety of ways of constructing each component.

He thought 99 per cent. of quantity surveyors regarded bills of quantities as ends in themselves. What architects had to rub in was that what they wanted was not a beautiful bill but some economic advice.

When there was time to work with some quantity surveyors to bring them in on the design they should be made to realise they could form part of the design and not just be an adding machine. When one had a team, and that was the thing to aim at, an architect should be in charge or be chairman otherwise the result would not be architecture.

He thought that Craig's paper published for the B.R.S. recently was admirable in every respect except one. He had quoted 48s for multiple storey flats—that he (Mr. Barr) suggested was ridiculously low. Having been put out by a government department one imagined administrators getting hold of this information and telling architects to work down to that cost. On the L.C.C. they had tried very hard and had not got below 60s for that kind of building even after a good deal of effort. It should be borne in mind that cost information was only to enable the architect to decide between one thing and another and not necessarily to decide the cheapest form.

It was the quantity surveyor's job and not the architect's to do cost investigation. The whole thing was far too complicated and he was convinced it was absolutely the Q.S. job and that he must be at the architect's elbow. The quantity surveyor must also be a working member of the team even if for only a few weeks. Working as a team they would not overlook the saving of £50 which could be made on the roof structure while they looked for a saving of £3 on the plumbing.

Contractors did not know all the answers. On the first of the mixed development schemes of the L.C.C. at Wimbledon, at the design stage, comment was invited from three contractors on the best structure for the blocks. One firm said steel frame, a second concrete frame and a third low bearing concrete walls. Each might have been right within his organisation, plant and so on. On a second scheme they approached six contractors, three were prepared to collaborate at the design stage knowing that later on they would have a chance to tender. One was all for a system of low bearing walls with sliding shutters of Swedish pattern, another reinforced concrete frame designed by his own engineer with concrete cladding and a third was in favour of a different kind of frame with different cladding. If that had been followed up to its logical conclusion the department would have had to produce three different sets of drawings and designs and there would have been a deuce of a job comparing tenders when they came in. So the Picton Street idea was logically come to and one nominated contractor was given the job and the department worked with him at the design stage to get the maximum economy within his organisation and plant.

"If one is going to employ nominated contractors to any extent in order to facilitate this working together as a team at the design stage how can one guarantee to the client the most economic result or that the result will be economic? Here it seems to me the R.I.B.A. and the B.R.S. can do immediately a study of what forms of contract are going on at the moment by Mr. Fidler, Mr. Gibson, Coventry and other authorities who are moving in this direction because I am convinced that nationally free competition is the only measure at the moment of the most economic form. Within that overall field there is room for a large proportion of nominated work where methods can be studied by architects and contractors generally. There are several forms of contract which facilitate this at the moment but I feel a great deal more needs to be known."

Finally, there was the follow on from the conference. He hoped the R.I.B.A. would extend the work of the general consultative committee to bring in a number of junior members. In recent years he had done some work on R.I.B.A. committees and Portland Street had had a soporific effect upon him. He felt that the council took its responsibilities too seriously. There was a lot of room for expression of opinion and for investigation which would not necessarily carry the weight of the council of the R.I.B.A. A junior members' committee was something in which the younger people, physically and mentally, could play their part.

Dr. Weston said Mr. Barr's comment on the target price could not go unchallenged. The target which had been suggested was based on current performance and he thought he could do no better than to quote the actual words from Mr. Craig's article. Nearly half the blocks in the survey were less than 60s. It came out at this that the cost of high flats had a very wide range. They went from under 50s a sq foot to very nearly 90s and all were local authority dwellings which normally provided the same standard of accommodation for the occupant.

Mr. N. Tweddell said bills of quantities were often a stumbling block in their present form.

The whole process of architect building could be divided into three stages: discussions on design and cost relationship; getting in the price for which the design has been made; and getting the building up.

He had experienced great difficulty in getting in what he thought was a good price on orthodox bill of quantities even when he had taken an immense amount of trouble not necessarily on cost analysis as it was known today, but doing the best design he could and collaborating in a

Members trooping into the Cathedral for Evensong ▶

Architectural Economics

mild way or taking advantage of advice from contractors. Yet when the tenders came in he had realised the orthodox bill had been a barrier between himself and the contractor.

He hoped the Institute would do what it could to sponsor the development of elemental bills so that even if the present bills could not be scrapped an alternative method of tendering could be developed which would be more appropriate to specialist types of building. He had no doubt that for most of the building carried out normal bills of quantities would always be necessary but new techniques were being developed in building and he was certain bills of quantities did not allow for the necessary collaboration between the architect and the builder.

Obviously collaboration could be taken too far. On jobs of £1 million and so on it could be done but he could not run his office by negotiation or collaboration on every contract he put out. It would be quite impossible from the time aspect and would cut right across competitive tendering.

By and large competitive tendering stood and collaboration must be the exception rather than the rule. There was a need to look on elemental bills as a long-term job. They needed to see what the pattern would be in ten years time. The R.I.B.A. itself wanted to do some pre-planning on contract procedure and so on.

Mr. R. Llewelyn Davies: What was needed in order to control costs was increased and deeper knowledge of all aspects of design, and the means of developing better, more efficient and more economic building. In the present circumstances he felt that this knowledge and these means could only be developed by specialised bodies, by teams including not only architects but also members of sister professions.

The existence of centres of research and teams studying professional problems was already well established in many other professions but it was a rather new facet of the professional life and organisation of architects.

He agreed heartily with Mr. Mathew's statement that they as a profession should sponsor and initiate these studies, but they should know that the organisations already working in this field were not originated by the profession. He hoped that this pattern would change.

The two main problems were the recruiting of the right kind of architect to carry on the work and maintain the leadership of architects in this field, and the dissemination in the right form to practice.

A lot of trouble was experienced in finding the right kind of man to come forward to lead these teams. One line of development he suggested was to have a few more facilities for post-graduate work.

The question of dissemination was vital, because there was no point in doing work unless it rapidly filtered down into practice. The research workers were tremendously anxious to find the right channels of communication to the profession. One of the most useful results of the conference would be for the profession as a whole to give help and guidance as to how they would like the material. The work itself was also dependent on effective comments and criticism from practising architects.

"Don't let costs become such an obsession that you don't know how to spend money," cautioned **Mr. Bryan Westwood.** On a tour of Holland with the A.A. they were struck by the amount of money the Dutch had spent on their offices. A Dutchman pointed out that he spent half his useful life in his office and did not want it to be a slum. "Some of your English banks, hotels and offices are not much more than slums," added the Dutchman.

On housing it was interesting to compare the Italian attitude. In the face of a really pressing problem, they aimed to get as many units of accommodation as possible and they did so by building as many shells as possible. When a query was raised about the lack of fittings, the Italian reply was that in 21 years the house belonged to the tenant and the ordinary Italian was very capable of putting in the shelves. There was a thought that made a very big difference when they started thinking about their 48s. What proportion, he wondered, was taken up by cupboards, shelves, fireplaces, taps, none of which were fitted in the Italian houses. The Italians even left a hole in the wall for the tenant to fix his own fireplace, the fireplace of his choice.

Mr. H. S. Howgrave-Graham thought drawing office practice was a field which might be studied again with a view to reducing costs. It was allied to the question of the bill because it might be that when the bill was studied objectively it would be found there was a great deal that could be done to slip in drawings reducing the amount of verbiage and illustrating the intentions.

Research needed study and so did the results. Another point was they might consider whether in future conferences they should resolve into study groups or whether there should be some form of follow-up work.

Mr. Leslie K. Watson mentioned as a difficulty that some buildings were only illustrated every two or three years, with the result that, when the information was turned up, the costs were out of date. It was also quite likely that the costs had not been given. The editors of architectural journals should make a point of putting in the cost per foot super when they published buildings intended to be a serious contribution.

Mr. Watson also felt there was an opening for another type of architectural publication, an annual book that would give records of buildings, perhaps in about two pages telling the architect all he wanted to know, the cost being amended to bring it up to date each year.

Pointing to the advent of automation, **Mr. Norton** wondered whether the scope of research was sufficient and suggested a study group working on factory pre-fabrication and site assembly. He could not see how men would work on dirty sites, in cold and damp, when they could sit indoors in factories pressing a button and sitting on a nice easy chair.

Arrangements had already been completed, stated **Mr. W. A. Allen,** of the B.R.S. to carry out a programme of research on factory design and construction over the next two or three years. He acknowledged the help from the Midlands and particularly from the Midland Regional Board for Industry which had found the finance to extend the scheme to the extent necessary to carry out the work properly.

Mr. Allen asked Dr. Martin to give a reply to Mr. Fidler as to whether it was practical to introduce research teams into local authorities' architecture. He thought they could make a cast-iron case to afford them these days, the local authorities having the structural organisation capable of carrying them.

On Mr. Davies' point about the carrying out of operations inside the R.I.B.A., Mr. Allen said it seemed to him something they had to learn to develop in the next few years if they were going to carry out inside the profession the rapid changes which obviously they were feeling they would need in order to strengthen their position and cope with the volume of work they wanted to bring into their hands. They had to operate some kind of technique of carrying through a planned programme which had the general support of the profession and actually to pass on information rapidly. It was necessary that the broad body of the membership welcomed it. A committee had

been doing something along these lines but it was localised in the London area to a great extent.

Mr. R. Baden Hellard said his firm had sent out elemental drawings when they did some small jobs collaborating with the contractor on a negotiated contract. It was found they speeded up the production of the information the contractor required. The drawings helped to focus on the element they were considering at the time.

The builder, however, did not agree. The estimator found he was missing things. He was collating information from one element and thinking he had missed it elsewhere and including it again. It was also discovered that the trades foreman on the site had difficulty in reading "this rather logical drawing." "We came to the conclusion," he said, "that the average trades foreman or the general foreman has never had a course in drawing interpretation." When there was any change, he had no basic knowledge to fall back on. The result was that a lot more time had to be spent explaining these elemental drawings to the operatives, but, as they continued with the contracts, it had begun to click.

The point was that it was no use for architects to educate themselves alone to this approach. They had to go right back to the trade foreman on the job; otherwise it might all fall down with him.

On the question of dissemination of information, **Mr. Arthur Ling** was concerned at the moment with an attempt to set up a development and research group in his office in Coventry. He found it an exceedingly difficult task. Firstly, it was not possible to get the kind of staff needed for the job. Secondly, there was nowhere they could go centrally which would give them the advantage of all the work that had already been done on the question of development and research. The intention was to have a sample room and a library of references where the staff could quickly look up information they required or find a reference to the source of that information. The question then arising was how to index.

He had become appalled at the idea that so many people would be covering the same sort of ground, and the thought had occurred to him that, if their office was going to have a development and research section, there seemed no reason why it should not serve private architects in Coventry and the surrounding area. Whereas in London one had the advantage of easy access to various centres, the farther from London the more difficult it became to get to a centre easily.

It might be something which could be looked into nationally to see whether some system of building and research centres could be established which would provide a simple framework within which information could be disseminated all over the country.

Pre-planning was one of the most effective ways in achieving economy in architecture, but at the moment very little pre-planning was possible because they did not have the time. In connection with educational buildings, the programme for a year ahead was given and confirmed by the Minister a few months before the year commenced, if as early as that. Now that the Minister had asked them to take into account a 3 per cent. increase in the cost of labour and materials ("We think it is 6 per cent.", he added), they should ask for something from the Minister in return. They should inform the Minister that they would not make the cut immediately as they had not got the time, but, if he would give a programme for two or even three years ahead then they could make this economy in architecture.

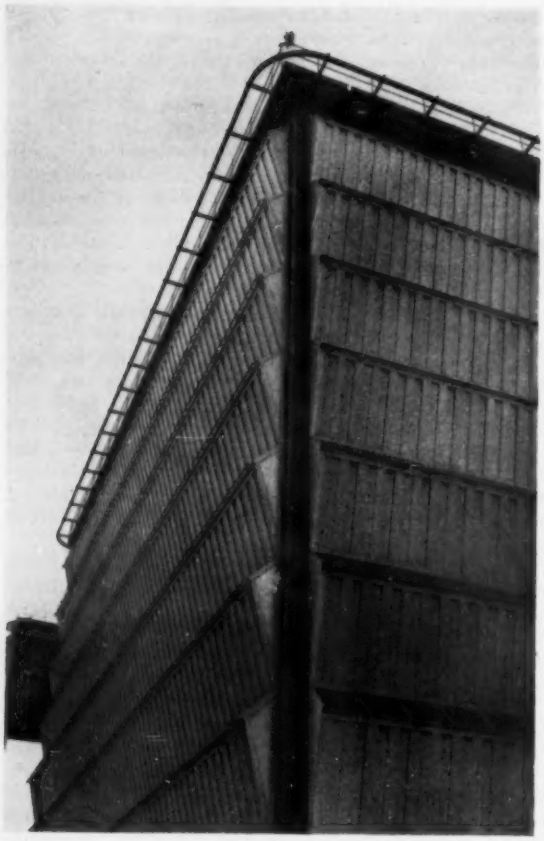
Replying to Mr. Allen, **Dr. Martin** said care should be taken in the way the word "research" was used. He would like to see it used for that basic work done by specialists —and it was very expensive work at that. The work that could be done in the public office, even in the largest possible office such as the L.C.C., was not research, but development—the application of research to practice. The cost of teams could be justified over and over again in development work in large public offices.

At the conclusion of business, the **President** described it as one of their continuing better conferences.

A vote of thanks to the authors of the papers was proposed by **Mr. Howard Lobb,** who said everyone who had been to the recent series of conferences would agree that this had made a very real contribution to their thought and techniques. It had served a purpose even if it had only just opened a door to get a little closer to value for money. Now it was up to those at Portland Place and to architects, private and public, to see the ways in which they could help in disseminating and exchanging information.

Seconding **Mr. Donald Gibson** said that when he had commissioned about 12 architects to design different schools eight hit about the right price, three were about £30,000 over and one about £30,000 below. This was a serious problem when more and more money was publicly granted or publicly controlled. In Coventry they had tried to tackle the problem and had set up a cost analysis section. First they found there were no specialists and they had to do it themselves. They were finding that the initiative had to come more from the architect. He thought consideration might be given to things which unnecessarily increased cost such as elaborate fire protection and global insurance and subsidence allowances. His department had put themselves in the position of knowing all the facts by putting in a two year tender for 20 schools. They had got a very good tender and that meant that one chap would do the whole lot and the authority knew exactly what the price was going to be.

(L-R) Arthur Ling, City Architect Coventry, with Sydney Cook, Borough Architect Holborn (no relation to Arthur Ling). Back view, Bryan Westwood, immediate Past President, A.A.



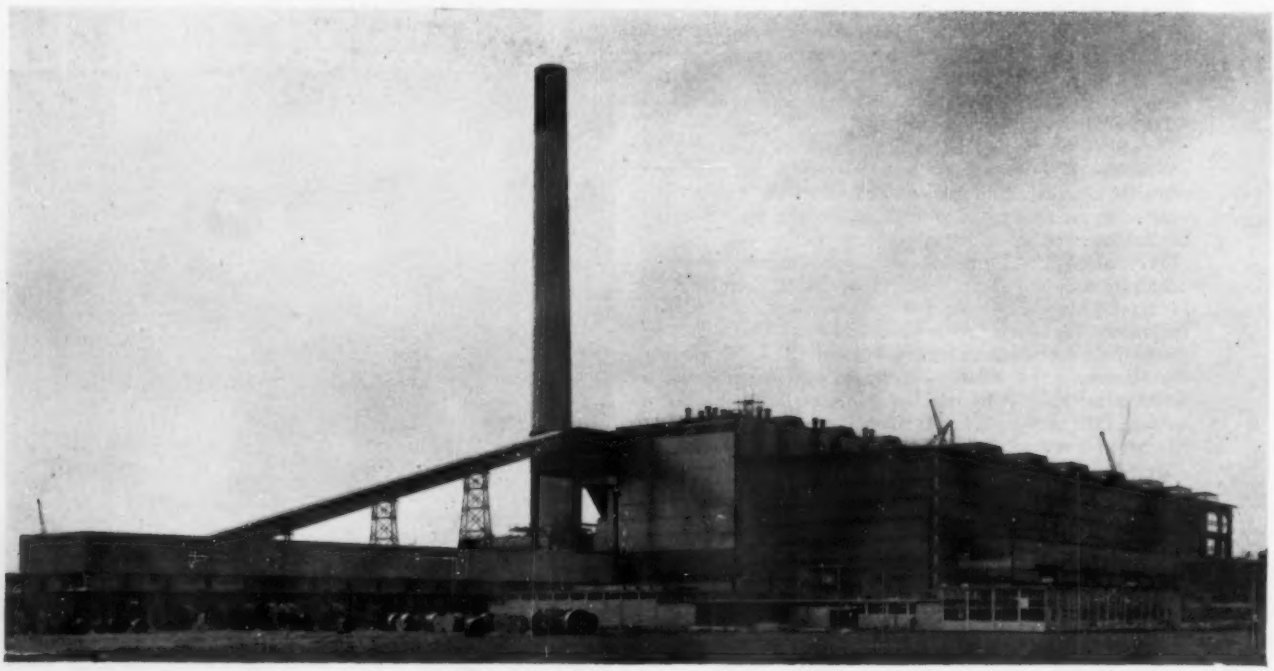
Eastern corner of turbine house showing saw-tooth cladding and rails which protect the glazing from damage by cleaners' cradles

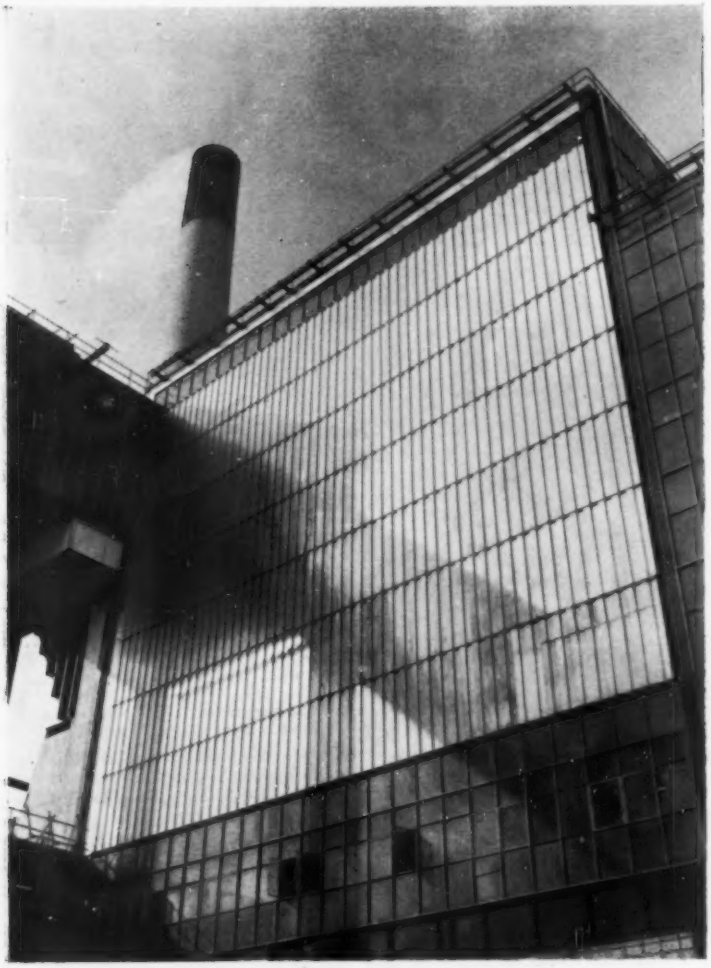
Cladding of Marchwood Generating Station

MARCHWOOD, on the west side of Southampton Water facing King George V. Graving Dock, is one of over thirty new generating stations now under construction in various parts of the country. The station first produced electricity at the end of 1955, but it will not reach its peak output until 1959, when it will have a maximum capacity of 480,000 kW.

At Marchwood, aluminium structural sections and glazing bars, and aluminium sheet in various forms, have been used for the cladding above the 30 foot concrete block walls except for the patent glazing and a certain amount of vitreous enamelled infilling panels. The aluminium infilling is exceptionally light in weight, about 1 lb/sq ft, as laid, not including the Asbestolux backing.

On the boiler house and turbine house the majority of the cladding is a special press-brake formed 18 s.w.g. corrugated sheet. The 2 inch deep rectangular corrugations are 9¾ inches wide and the pattern repeats itself every 19½ inches. On the end walls and the long face





Southeast end of boiler house, showing special cladding

of the turbine house this sheet forms a saw tooth pattern with the glazing; otherwise, it is applied vertically with a 2 inch side lap, the sheets being held at head and tail in aluminium extrusions.

Elsewhere, on the workshop and stores, the auxiliary boiler house, and the cooling water pump house, 18 s.w.g. standard Rigidal Industrial Trough T corrugated aluminium sheeting has been used in the same way. This type of sheet is also used for the coal conveyors, and the junction towers.

The fixing of the cladding is in general by Oakley clips and bolts, by ordinary hook bolts, or by plain bolts direct to the steelwork. Most of the wall cladding to the main buildings is lined with ½ inch Asbestolux, Gyproc aluminium foil faced plaster board being used for lining the workshops and stores building.

The metal used throughout is BA Commercial Purity (99%) aluminium (S1C) for flashings and duct covers, BA.60 alloy (NS3) for all other sheet, and BA.24 alloy (HE9) for extrusions and glazing bars.

General Contractor: Sir Robert McAlpine & Sons Ltd. Steelwork: Alex Findlay & Co., Ltd.

Civil Engineering Consultants:
SIR WILLIAM HALCROW & PARTNERS

Consulting Architects:
FARMER & DARK

Workshop and Stores building

Interior view

Information Digest

OFFICIAL PUBLICATIONS

● **British Standard Specifications,** from the British Standards Institution, British Standards House, 2, Park Street, London, W.1. Telephone: Mayfair 9000.

B.S. 1422 : 1956, Steel sub-frames, Cills and windowboards for metal windows. Price 4s.

The main feature of this revised standard is the introduction of a cill with a profile which simplifies both manufacture and fixing. It now covers steel window sub-frames of two types, suitable for either rendered or fair face, or solid and cavity walls respectively. There are now six different profiles for sub-cills and eight for cills with seven for window-boards. Altogether they give a complete range of auxiliary components for use with B.S. metal windows (B.S. 990).

The requirements for finish have also been brought into line with those standards dealing with metal windows and doors.

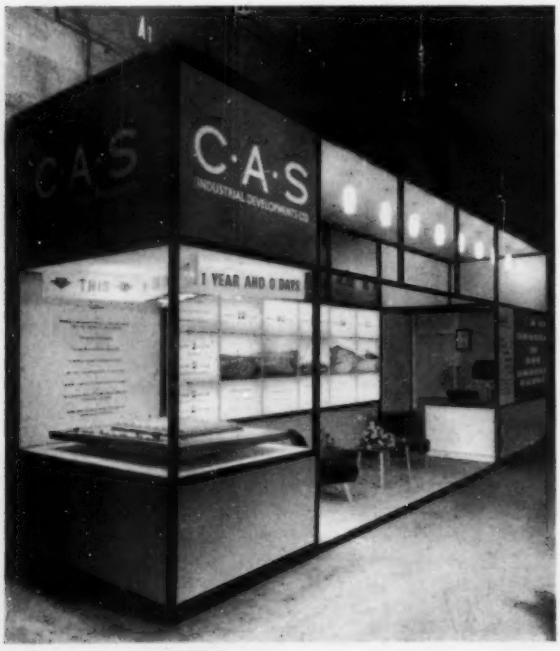
B.S. 1451 : 1956. Coloured mastic asphalt flooring (limestone aggregate). Price 3s.

This revision forms part of a series for mastic asphalt used in building; first published in 1948, and it provides for a coloured flooring composed of pigment, fine aggregate and coarse aggregate, incorporated with a suitable asphaltic cement. The standard of colour is left for agreement between the purchaser and the contractor.

Modifications have been made to the percentage grading of fine aggregate, the hardness number, and to the composition by analysis. Appendices have been added and for the guidance of purchasers and contractors some of the more important aspects of application have been given (C.P. 204 c.f.).

B.S. 161 : 1956, Tungsten filament general service electric lamps, price 4s.

This is the tenth revision since 1921, it has been brought as closely as possible into line with the specification issued in 1954 by the International Electrotechnical Commission, No. 64:1954. The most important change introduced affects the provisions for testing and quality control in the factory. It deals only with lamps for operation on 200/250 v. supply.



The C.A.S. (Industrial Developments) Ltd. stand was the only building firm at this year's B.I.F. at Olympia. Designed and constructed by City Display Ltd.

A mock-up dining-room in the "Cumbrae" range furnished by Morris of Glasgow.

Handbook No. 3; 1955, British Standards for building materials and components, price £3 10s., addendum sheets price 15s.

When this handbook was issued in its loose-leaf form last November it was stated that packets of additional and revision sheets would be issued periodically. The first packet containing 79 sheets is now available. They cover eight B.S. not previously included, the remainder dealing with revisions and corrections together with contents and index sheets. All copies of the handbook issued will contain the latest sheets.

● **Emulsion paint, and Lightweight concrete,** two Advisory leaflets, No. 37 and No. 38, by the Ministry of Works, from H.M.S.O., price 4d. each, reductions for quantity.

These two new leaflets have been prepared by the Technical Information Service of the M.O.W. to help the small builder, foreman and craftsman to keep abreast of modern developments in the industry. *Emulsion Paint* describes the main types, their advantages and limitations with practical hints on preparation and application. *Lightweight concrete* draws attention to the valuable properties of this material and the methods of achieving the best standard of material using either *in situ* or precast techniques. A short table lists the main properties of concrete made with lightweight aggregates—densities, mix proportions and compressive strength, and a second table gives stock sizes of blocks.

PROFESSIONAL AND TRADE ASSOCIATION PUBLICATIONS

● **Applications of Lead: Lead paints to-day: Lead in cable manufacture,** from the Lead Development Association, Eagle House, Jermyn Street, London, S.W.1. Telephone: Whitehall 4175. Free.

Two new pamphlets describing some of the many applications of various forms of lead. The first discusses the types and uses of lead paints in a general manner.

Primers, finishing coats and rust-inhibiting materials with their simple specifications and B.S. references are dealt with. The largest consumer of lead in this country is the cable industry, about 100,000 tons being used annually, the second pamphlet tells of the manufacturing processes, the alloys, and the characteristics of cable sheath and solders.

● **How to insulate buildings, 9th edition,** from the Structural Insulation Association, 32, Queen Anne Street, Cavendish Square, London, W.1. Telephone: Langham 7616. Free.

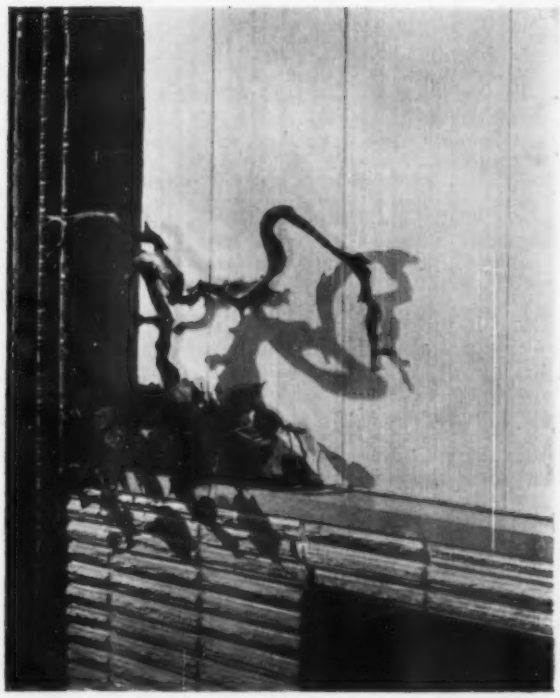
Insulation to modern standards is neither difficult nor expensive. In the centre pages of this booklet are brief details of the types of insulating materials available and the other pages show a variety of ways in which these materials can be incorporated into buildings to ensure a certain themal standard. The publication is completed with a list of members of the association who are also suppliers of every sort of material and technique of insulation. A useful booklet to have.

● **List of recommended domestic electrical appliances,** compiled by the British Electrical Development Association, 2, Savoy Hill, London, W.C.2.

This list has been compiled at the request of the Ministry of Fuel and Power by the E. D. A. Testing House Committee and it is recommended that all appliances for new houses and flats by local authority housing should be chosen from it. In the introductory notes are several paragraphs on wiring installations, adequate socket outlets, the standard service unit, hot water systems and a bibliography covering official publications and British Standards. An index to manufacturers completes the list.

● **The Gypsum Journal, No. 3,** published by the Gypsum Building Products Association, G.P.O. Box No. 321, London, W.1.

Describing fire tests carried out in America, the cause of hair cracks in the plaster applied to plasterboard ceilings, fires and their causes, and a new development in thermal insulation namely gypsum plasterboard surfaced on both sides with a veneer of aluminium foil. Completed with a page of technical data on gypsum plasterboard manufactured to B.S. 1230.



The wall surface in this picture is the Neutraltone Straited finish on Sheetrock panel, a new Gypsum building material made by the United States Gypsum Co. Panels are ⅜in thick, 16in wide, 8, 9 and 10ft long and are available with three different finishes.

● **Information for the handyman, No. 6,** from the Fibre Building Board Development Organisation Ltd., 47, Princes Gate, London, S.W.7. Telephone: Kensington 4577. Free.

This, the sixth of FIDOR'S handyman leaflets is called "Jobs about the home" and deals with some of the ways in which various types of fibreboard can be used to brighten up the home.

TRADE PUBLICATIONS

● **Febtone,** from FEB (Great Britain) Ltd., 102, Kensington High Street, London, W.8. Telephone: Western 0444. Free.

A combined leaflet and shade card of a new material designed to colour *in situ* and precast concrete and cement renderings. The product also acts as a plasticiser and improves workability, waterproofs and rapidly hardens. Febtone colours conform with B.S. 1014:1942. Six standard colours are made, twelve other shades being obtainable, either with a less strong application or with the addition of a proportion of white cement. The back of the leaflet contains recommendations and specifications for use and the methods of mixing.

"Confetti" inlaid rubber tiling was designed by Max Hof and made in rubber by Morris Rubber Industries Ltd. Four designs and colour combinations available in five sizes and strips.

Information Digest (continued)

● **The Modern Roof Tile,** by F. L. Brady, M.Sc., A.R.I.C., and published by the Marley Tile Co. Ltd., Riverhead, Sevenoaks, Kent. Free.

The subject of this little book is the development of concrete roof tiles during the last thirty years. The author was formerly at the Building Research Station and it was on the basis of tests in which he was concerned while there that the requirements of the B.S. for Concrete Roof Tiles were founded. Mr. Brady is now Technical Director of the Marley Tile Company. The booklet describes the qualities to be looked for when choosing a tile and gives a simplified version of the manufacture and research behind them. Not merely a Marley sales boost.

● **Sparkless Mercury Accessories;** by Wandsworth Electrical Manufacturing Co. Ltd., Albert Drive, Sheerwater, Woking, Surrey. Telephone: Woking 3506. Free.

A new catalogue dealing with a range of mercury switchgear designed for hospital operating theatres, dental clinics, maternity wards and similar places that require silent and sparkless operation of switches. All types and variations of pole and operation are available, special assemblies can be made up to order.

● **The Sindall Floor,** from William Sindall Ltd., Gloucester Street, Cambridge. Telephone: Cambridge 56925. Free.

A technical brochure giving details of a new reinforced concrete system, known as the Sindall floor. It is made up of concrete composite T-beams with concrete hollow infiller blocks spanning between them. The beam consists of a concrete plank with a lattice web of reinforcing steel projecting from it and producing sufficient stiffness to carry the dead weight of the floor with the minimum of support. *In situ* concrete completes the beams, forming a T section, the infiller blocks acting as formwork to produce this. A full report of tests carried out by the B.R.S. is given.

● **Standard steel frame buildings,** by the Coseley Engineering Co. Ltd., of Dock Meadow Drive, Lanesfield, Wolverhampton. Telephone: Bilston 41927. Free.

A new twenty-four page non-technical brochure describing the wide variety of uses to which this type of building has been put. The range is from 30ft to 75ft span, from 80ft to 20ft eaves height with a 12ft 6in bay spacing. The bay spacing can be increased to 25ft with the use of heavier sections. The smaller sizes use a tapered frame, the larger a parallel, a lean-to of up to 20ft span can also be supplied. The roof pitch is 21 deg 48 min.

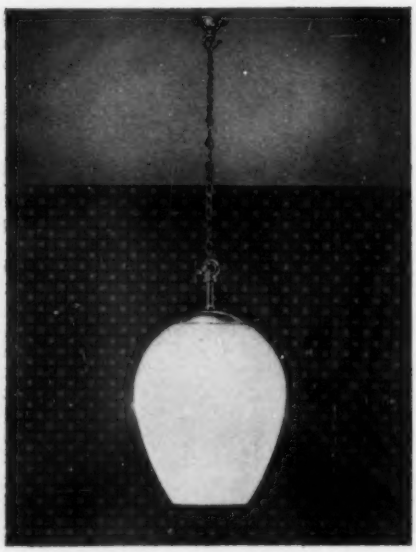
Outsize flush doors for Chelmsford garage, built by F. H. Hipperson & Sons Ltd., of Dagenham.

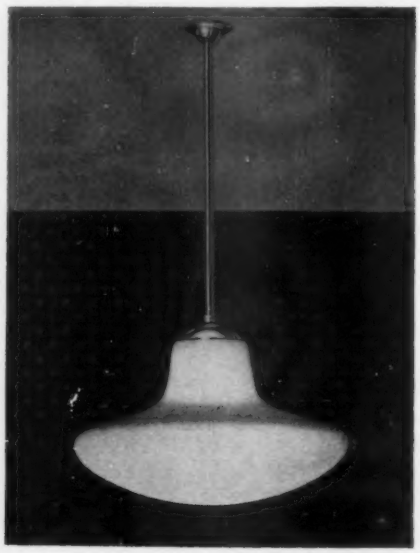
● **Kuterlite light-weight compression fittings,** from Imperial Chemical Industries Ltd., Imperial Chemical House, Millbank, London, S.W.1. Telephone: Victoria 4444. Free.

The addition of these lightweight fittings for copper tube is to meet the need in certain applications for a fitting that is lighter than the "Instantor" range by the same firm. They are intended for hot and cold water services, in copper or polythene. This catalogue illustrates the range and gives fixing instructions.

● **Plycomor,** from British Bitumen Emulsions Ltd., Dundee Road, Trading Estate, Slough, Bucks. Telephone: Slough 21261. Free.

A new mortar plasticiser in liquid form which induces fattiness and an improved adhesive property without the use of lime. Other attributes claimed are improved workability, resistance to frost, crazing and cracking.





Two new lamp fittings to be seen in the Spring show at the Aldwych Showroom of the A. E. I. Lamp and Lighting Co. Ltd. Far Left "Brandy Glass" and left "Mushroom".

January February March April

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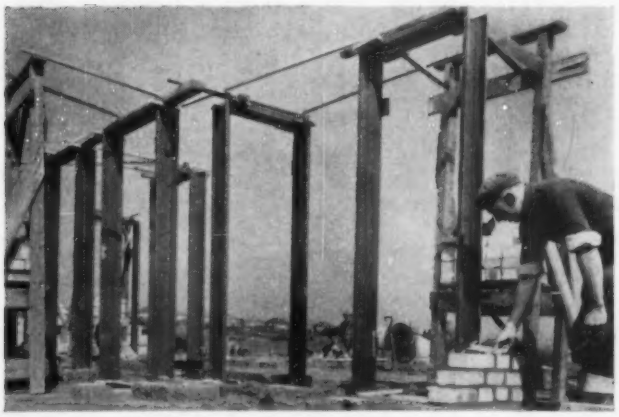

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See Catalogue 254

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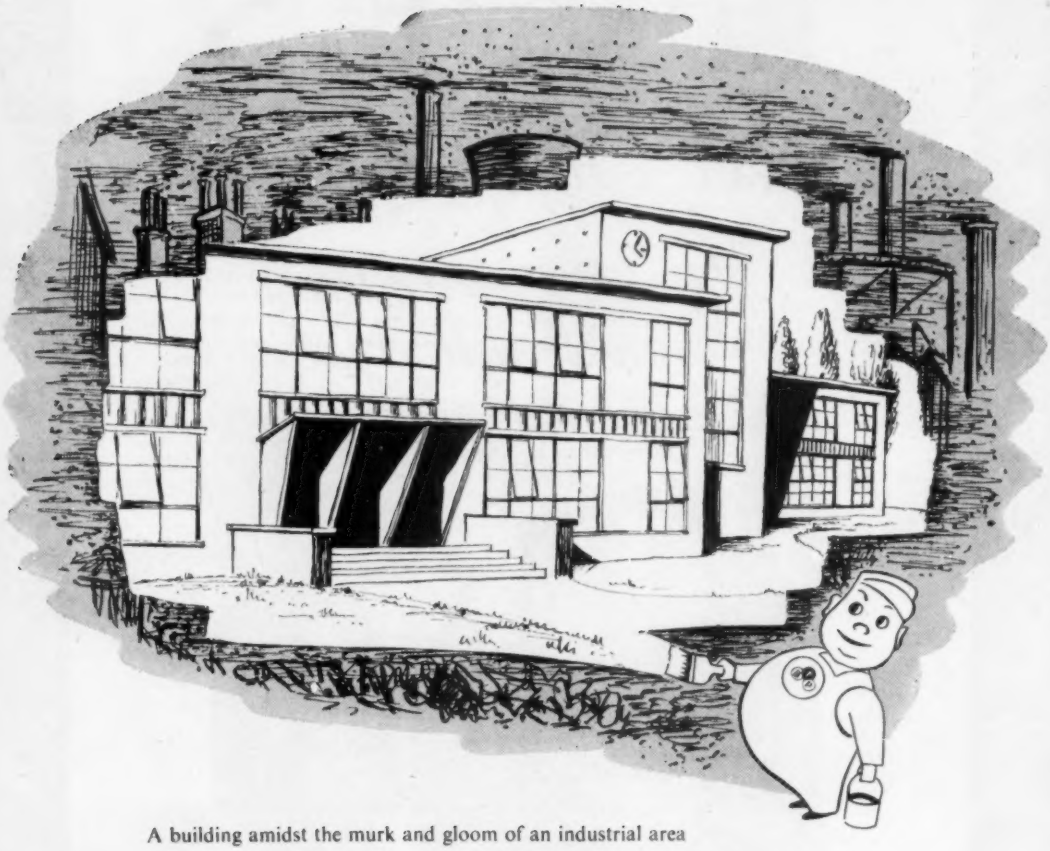

A building amidst the murk and gloom of an industrial area

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Information Digest (continued)

● **Ruberoid Slates,** from the Ruberoid Co. Ltd., Commonwealth House, 1-19, New Oxford St., London, W.C.1. Telephone: Holborn 8797. Free.

This is the revised edition of the strip slate catalogue by Ruberoid Ltd. It includes details of their recently introduced range of asbestos-based slates which have been designed for use where difficulties arise concerning local building bye-laws. They are identical in appearance to the company's standard range of square butt slates, but possess a base of bitumen-impregnated asbestos fibres instead of felt. Coloured illustrations and fixing instructions are included.

● **Painting specifications,** from Pilchers Ltd., 6, Chesterfield Gardens, Curzon Street, London, W.1. Telephone: Grosvenor 1603. Free.

A sixty-page bound publication containing over 180 general recommendations and over 80 complete painting specifications embracing practically every type of surface condition. The book has been produced primarily for architects and surveyors but it will be of practical use to building and technicians and contractors.

● **Permanent Protection,** from R.I.W. Protective Products Co. Ltd., 325, Whitehorse Road, Croydon, Surrey. Telephone: Thornton Heath 6121. Free.

A new leaflet that provides a guide to R.I.W. asphaltic compositions. Five different products are itemised and supported with eight illustrations. A technical service is mentioned for advice and recommendations.

● **Ripper Woodwork,** from Rippers Ltd., Castle Hedingham, Halstead, Essex. Telephone: Hedingham 191. Free.

A very clearly produced catalogue of standard products, including casement windows, bay windows, door frames and kitchen units, all in timber. Every item contained in this catalogue conforms with the appropriate British Standard.

● **Facts about Venesta foil,** from Venesta Ltd., Vintry House, Queen Street Place, London, E.C.4. Telephone: Central 3040. Free.

Outline information on aluminium foil, a versatile product with many uses in building and decoration. Its application to other materials to increase their heat insulative values is well known. Less common is the damp-proof course of foil, hessian and bitumen. The decorative finishes, of which several are shown in this book, are worthy of attention. A description of the manufacturing processes makes interesting reading.

The manufacturers of Gold Seal Wood Office Furniture offer a complete range in either Oak or Mahogany with all the latest refinements and improvements. The back of the desk curtains a cupboard in each pedestal and a pull-out slide in the centre for dictation.

ALSO RECEIVED

● **Stainless Steel Review, Vol. 2, No. 2,** from the British Electro Metallurgical Co., Wincobank, Sheffield. Free.

● **Channel Reinforced Wood Wool Roofing Slabs,** from Thermacoust Ltd., 39, Victoria Street, London, S.W.1. Telephone: Abbey 2738. Free.

● **Hawksley SMD,** from Hawksley SMD Ltd., Slough, Bucks. Telephone: Slough 23212. Free.

● **Visual Selling with Vizusell,** from Versatile Fittings (W.H.S.) Ltd., 55, Fetter Lane, London, E.C.4. Telephone: Fleet Street 1887. Free.

● **Seelastic, Asbestumen, RB200,** three leaflets from Expandite Ltd., Chase Road, London, N.W.10. Telephone: Elgar 4321. Free.

● **Leaflet** from Richard Parton (Builders Merchants) Ltd., of 7, Gayfere Street, Westminster, S.W.1. Telephone: Abbey 7565. Free.

● **Annual report,** from the British Non-ferrous Metals Research Association, Euston Street, London, N.W.1. Telephone: Euston 6411.

● **Crompton Lighting Equipment Handbook,** from Crompton Parkinson Limited, Crompton House, Aldwych, London, W.C.2. Telephone: Chancery 3333.

● **Structural Alum'nium,** from Northern Aluminium Company Limited, Banbury, Oxfordshire. Telephone: Banbury 2242.

● **Painting Specifications,** from Messrs. Blundell, Spence & Co. Ltd., York House, 37 Queen Square, London, W.C.1. Telephone: Chancery 6877. Free.

● **Lighting and Heating Catalogue,** from Aladdin Industries Limited, Aladdin Building, Greenford, Middx. Telephone: Waxlow 2300.

● **B.S.I. Information Sheets for March and April,** from The British Standards Institution, British Standards House, 2 Park Street, London, W.1. Telephone: Mayfair 9000.

● **Guide to the Selection of Aluminium Casting Alloys,** from Alar Limited, 3 Albemarle Street, London, W.1. Telephone: Mayfair 2901. Free.

By placing one layer of aluminium foil beneath the roof of a building heat-loss through the roof can be halved. Corrugated sheets, by Venesta Ltd., are shown here being fixed to the roofing material.

Fire

SEVERAL publications on this important subject have reached me lately, the first of these, and one of considerable importance to all associated with the building of hospitals, is a National Health Service Circular, H.M.(56)36 which the Minister of Health has issued to Hospital Authorities giving advice on safety from fire in existing hospitals. Much of the information given, however, is also of value in relation to new buildings. The Minister points out that in many hospitals the suggestions made in the Circular are already established practice but the Circular brings together in a convenient form information and advice on fire prevention and on the organization and management of hospital fire services.

Based on information over the period 1946/50 an interesting table is given in an appendix showing the relationship of the supposed causes of fires in hospitals, homes and institutions for the care of the sick and infirm. The greatest cause of fires (18.3 per cent.) appear to result from smoking while the next largest group (16.7 per cent.) result from miscellaneous and unknown causes. Fires in grates, which presumably are unlikely to be an important cause of fire in the majority of new buildings except such appliances are likely to continue to be used to some measure in day-rooms, especially in buildings for the aged, accounted for 11.5 per cent. of the fires. The two other important causes, each 9.3 per cent., are due to electrical apparatus other than heaters and from gas apparatus.

Architects are likely to find the appendices to this Circular helpful as Appendix A lists the statutes concerning fire prevention of which account must be taken; Appendix B concerns the storage of X-ray films and incidentally contains one statement which may prevent the use of open-fires in wards of all types since it is suggested that in all rooms where X-ray films are handled open-fires should be prohibited. Appendix C lists the hazardous situations in hospitals and related to it is a paragraph which points out that there are certain departments which not only carry a high fire risk but are departments where staff are not continuously present so that it is important to take all reasonable steps to reduce the possibility of an outbreak of fire in such departments and in addition to so place them so that fire and smoke do not easily spread into accommodation occupied by patients and resident staff nor impede main escape routes.

The fourth appendix lists some 54 causes of fires in hospitals and gives advice on the steps that should be taken to prevent fires arising from these causes. The greater part of the points made are not ones about which the architect can do a great deal as they arise from causes over which he can have little control but there are a few points made which should be taken care of as part of the design, construction or re-construction of buildings.

The fifth appendix has also extremely useful information as it lists works of reference from a number of sources relating to the problem. It is good to see the constant references to the need for consultation with the local fire authority and to seek the help and assistance of that authority both when buildings are being taken over for hospital use, reconstructed or when alterations are made. Some advice on fire fighting equipment is given and there is an extremely useful appendix, F, listing the various types of extinguishing appliances, kinds of fire for which each is suitable, the positions where they should be installed or not installed, the necessary maintenance procedure and certain general remarks which are extremely useful.

There are a number of notes on structural measures for preventing spread of fire and making particular reference to the need to check the spread of smoke and fumes which may not necessarily be in themselves dangerous but severely hamper fire fighting and rescue work. A number of paragraphs are given on the question of means of escape. It is interesting to see that stress is laid on the fact that there are obvious drawbacks to the use of external iron stairs as a means of escape for hospital patients so that properly designed enclosed stairs are definitely to be preferred.

A large section of the advice is devoted to action on the outbreak of fire, which is prefaced by a proposal that the local fire brigade is able to advise on the composition of instructions to staff, where notices should be displayed and the actions that should be taken.

Another publication which is important in connection with hospitals is "Precautions against anaesthetic explosions in operating theatres" published by H.M.S.O. as there are certain precautions which need to be taken in the design of buildings and the selection of apparatus and finishes to minimize risks both resulting from anaesthetic mixtures and to ensure the discharge of static electricity.

In the April issue of the Fire Protection Association's Journal there are two pages relating to buildings under construction or repair which incorporates many serious fire hazards. The information given is extremely helpful to contractors and should be given much wider publicity than seems likely from the circulation of the F.P.A. Journal. Strangely there is a recommendation in the M.O.H. Circular referred to above which ought to have been included in the F.P.A. advice, namely that painters' blow-lamps should not be used within two hours of the end of the working period and after work in or near roof spaces these should be inspected by a foreman and lastly the suggestion that there are particular dangers in the use of blow-lamps under eaves of buildings. The F.P.A. Journal gives a general introduction to the subject of fire in buildings under construction or repair and then three groups of recommendations, the first relating to cutting, welding and blow-lamps, the second on the provision of fire-extinguishing equipment and the third on general precautions and although these are very brief they are probably sufficient reminders to contractors to give instructions for the necessary precautions.

In connection with the paragraph on cutting, welding and blow-lamps it contains a recommendation to "see that fire extinguishing equipment is at hand." While this is sound advice which may possibly be put into operation on large buildings and in works, I have yet to see a plumber with a fire extinguisher as part of his equipment when repairing burst water pipes in confined roof spaces where his blow-lamp must undoubtedly be a serious hazard.

Among the general precautions is a recommendation to keep timber, sawdust, shavings, straw, tarpaulins and other combustible materials to a minimum. While this is sound advice there is also an additional recommendation to keep buildings properly and regularly cleaned up which is even more important as there seems to be a tendency nowadays to allow rubbish of all sorts to accumulate in almost all parts of buildings both new and under reconstruction and repair. The recommendation is to remove waste from the site every day and not to leave it to be burned unattended. Particular care seems to be necessary where tarpaulins are stored or are in use. A paragraph relating to braziers is good especially the recommendation to burn coke in preference to wood or coal, the first of which can so easily cause flying sparks.

There is also a recommendation, which is extremely wise advice, not to use existing fireplaces in old buildings before making sure that the hearth and the flue are in good condition; not only is it wise to do this from the point of view of fire risks during the reconstruction but it is also sound advice to ensure that there is no fire risk when the buildings become occupied.

DUTCH UNCLE

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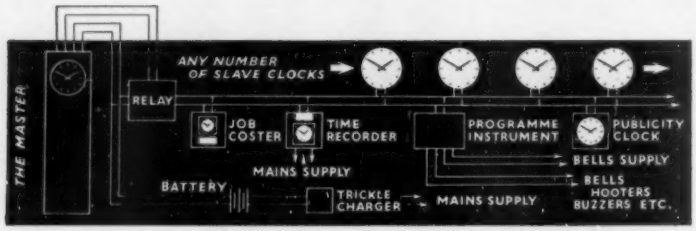

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Industrial Notes

● Kelvin & Hughes Ltd. will occupy a stand in the British section of the Poznan (Poland) International Fair from 17th June to 1st July. Three divisions of the Company, and Simplex-Ampro Ltd., will be represented.

● The Association of Building Technicians announces that the following were successful in the recent A.B.T. Clerk of Works Examination and gained the Diplomas: C. K. Austin (Bristol), R. E. Butcher (Lincoln), F. C. Evans (Dover), H. W. Harding (Cinderford), J. H. Johnson (Kinloss), H. V. Miller (Stevenage), D. D. McIntosh (Slough), J. McT. Ross (Kirkcudbright), H. Saunders (Stevenage), J. J. Way (Liverpool).

● The Birmingham Branch Office of Midland Silicones Ltd. has moved from its former address at Oldbury to larger and more central premises. The new address is: Midland Silicones Limited, Union Chambers, 63 Temple Row, Birmingham, 2. Telephone: Midland 7705.

● The Directors of Turner & Newall Limited at a Board Meeting held recently decided to declare an Interim Dividend in respect of the year ending 30th September 1956, on the £10,944,718 Ordinary Stock of the Company at the rate of 5% actual, less Income Tax at 8/9d. in the £, absorbing £314,660.12.10d.

● The A.E.I. Lamp and Lighting Company Ltd., of Crown House, Aldwych, London, W.C.2, announce a reduction of up to 12 per cent. in the price of their sodium lamps.

● Monsanto Chemicals Limited announce that the new address of the Public Relations Officer — Mr. W. D. Garner, Department of Industrial & Public Relations, is Monsanto House, 10-18 Victoria Street, London, S.W.1. Abbey 5678.

● In 'Fire Research, 1955,' published recently, the Fire Research Board states that a new agreement between the D.S.I.R. and the Fire Offices Committee will mean expansion for the Fire Research Station and its programme of work. Annual expenditure will be increased from just under £90,000 to maximum of £125,000. Staff will go up from less than 80 to something over 100. New buildings are to be provided, among them one in which fires in large scale models will be studied under controlled conditions. The expansion will be gradual.

● Mr. Edward Ward has joined Diesel Equipment Limited, of Uxbridge, Middlesex, as General Manager. This firm, which is a fully owned subsidiary of Auto Diesels Limited, produces a series of petrol and diesel powered generating plant with outputs in the 500 watts to 40kVA range.

● Kingston (Architectural Craftsmen) Limited, have received an order for the design and manufacture of Laminated Timber Arches having a span of 75ft with a ridge height of 33ft 6ins. Architects are Messrs. Firth, Son & Blackburn, Broadway House, Crackenedge Lane, Dewsbury. The arches will be used for a new Dyehouse for the Birstall Carpet Company Limited, Birstall, Yorkshire.

● Construction has begun at Coryton on Mobil Oil Company's new Central Laboratories building which is due for completion in the Spring of 1957. The main contractors for the project are John Laing & Son Limited, who were responsible for most of the Civil Engineering work carried out during the building of Coryton Refinery.

● E. K. Cole Ltd. announce that Mr. W. M. York has been elected to the Board of Directors. Formerly an Executive Director of the Company, Mr. York has been appointed to the post of Commercial Director.

Timber Bungalow at British Electrical Power Convention Exhibition

● Continuing their policy of increasing technical services to the architect, Celotex Limited, the manufacturers of Cane Fibre Insulation Boards, Acoustic Tiles and Hardboard, have instituted a new Site Service, which ensures liaison with the architect and with the contractor on the site. Architects are now supplied with copies of a brief Site Service form and pre-paid envelopes. When Celotex products are specified they complete this form and return it to Celotex Limited. The Company's Technical Department then check the proposed application and if necessary make further suggestions to ensure economical and correct fixings. The Company's Technical Representatives regularly visit the site, maintaining continuous liaison between architect, manufacturer and contractor until completion of the job. The advantages of such a scheme are numerous and it is the intention of Celotex Limited to relieve the architect, who is an extremely busy professional man, of overseeing methods of installation, and to ensure that his instructions are carried out correctly. It also removes the possibility of misapplication of Acoustic Celotex and Cane Fibre Insulation Boards. To the contractor, the Celotex Site Service means that the full resources of the Celotex Technical Service are available at all times. The Service also ensures that the Celotex products specified are delivered to site at the time required, thus removing the possible damage caused by weather or careless handling.

● Rubber Improvement Limited announce that pursuant to the offer made by the Company to purchase Stock units in Baxter's Leather Company Limited in accordance with the Statement and conditions of the circular issued by Rubber Improvement Limited through Minster Trust Limited, the Company have today received acceptances in respect of the 1,447,033 ordinary stock units of Baxter's Leather Company Limited, representing approximately 85.8 per cent. of the total issued capital. The Company's offer, therefore, becomes unconditional.

● Mr. H. V. Scholfield has retired from active duties as Sales Director of the Chloride Electrical Storage Co. Ltd. His decision was announced after his recent return from a visit to the Exide factory in South Africa. He retains his seat on the Board. His retirement from executive duties has involved two new appointments, Mr. Edward Powell, Director and Sales Manager of Chloride Batteries Ltd., since 1951, now becomes General Sales Manager of the whole Chloride Electrical group. Mr. A. C. Stewart, who was made Assistant Sales Manager last year, now assumes full responsibility as Sales Manager of Chloride Batteries Ltd.

● Austin Skromme, design engineer at Caterpillar Tractor Co., Peoria, Illinois, has been appointed to the engineering staff of its British Subsidiary, Caterpillar Tractor Co., Ltd., Desford, Leicester. Mr. Skromme will help launch production of the D.S. and D.4. crawler tractors.

● At a recent Meeting of the Board of Directors of Tarmac Limited Mr. J. C. Burman, J.P., was appointed Vice-Chairman of the Company.

NEW PRODUCTS

Varron Plant Engineers have produced an electrically driven portable mixer, Fig. 1, for mixing concrete in the barrow. Loading of materials takes place away from the machine by means of special hand skip of known volume. The barrow which has a circular pan body (16 gauge) is then wheeled to the mixer. The narrow rotating blade is lowered into the material and the blade then rises and falls whilst rotating, thus agitating and mixing at the same time. The ½ h.p. motor runs with a minimum of noise and capacity of barrow is 2 cu. ft.

★

Tingleys are the sole concessionaires of a roller wall decorator, Fig. 2, and a plaster projector, both from the continent. A wide variety of patterned rollers are available for the decorator.

★

Messrs. Chamberlain Industries Ltd. announce that they have been appointed sole agents for the Jenbach diesel-driven air compressor, JW 20 Kf. Fig. 3. Delivery, 78 cu. ft. per min.

★

The Oil-O-Matic oil burner by Joseph Lucas (Hydraulic and combustion equipment) Ltd., Fig. 4.

★

George Gilmour & Sons manufacture a new timber and galvanised sheet steel weatherbar in five standard sizes and specials. Fig. 5. It can be rebated into the front edge of the doorstep or fixed on the surface to give clearance to a doormat.

★

Spring-loaded door hinges in pressed steel or brass, have been introduced by Auto Door Closer Co. Ltd. Fig. 6, suitable for exterior or interior use, different spring tensions are available for various weights of doors.

Plycol Surface Hardener has been introduced by the British Bitumen Emulsions Co. Ltd., as a surface treatment for concrete floors.

★

Selonol W is a new product introduced by Dr. P. R. M. Masek (Research Laboratories) as a timber preservative again dry rot and insect attack.

★

Pitan Etch Primer, by Allweather Paints Ltd., is particularly suitable for application to the following metal surfaces; iron, steel, aluminium, tin, plate, zinc and galvanised iron.

★

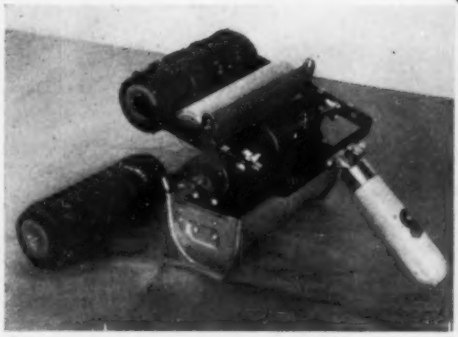
Vinylex tiles are now offered by Semtex, the Dunlop Subsidiary, in these nineteen colours. Black (plain), Elmwood marble, Sand marble, Regency cream marble, Regency beige marble, Cordova blue marble, Mermaid green marble, Apple green (plain), Bottle green marble, Silver grey marble, Nutria marble, Fawn marble, Lemon (plain), Teak marble, Geranium (plain), Currant red marble, Charcoal marble, Slate grey marble, Pearl grey marble.

The new range has been built up from a twelve-month survey of home and overseas markets. The size of the tiles is nine inches by nine and in two thicknesses, one-eighth, and one-tenth of an inch. Made from polyvinyl chloride resin, the tiles offer high resistance to wear and tear and to the effects of oil, grease, acidic materials, alkalis and alcohol.

★

Anodised aluminium-silicon alloy building sheet is available from the Cape Asbestos Co. Ltd., as a veneer to special grade panels of their Asbestolux asbestos insulation board.

1



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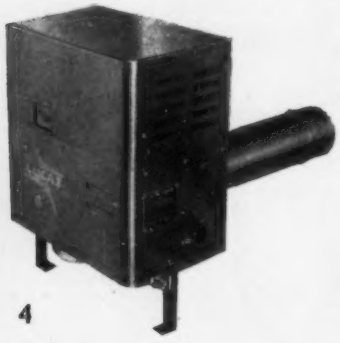

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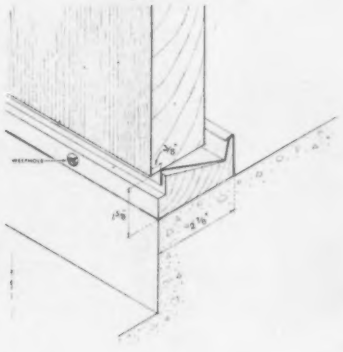

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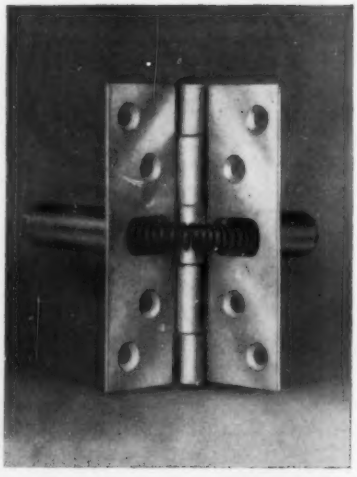

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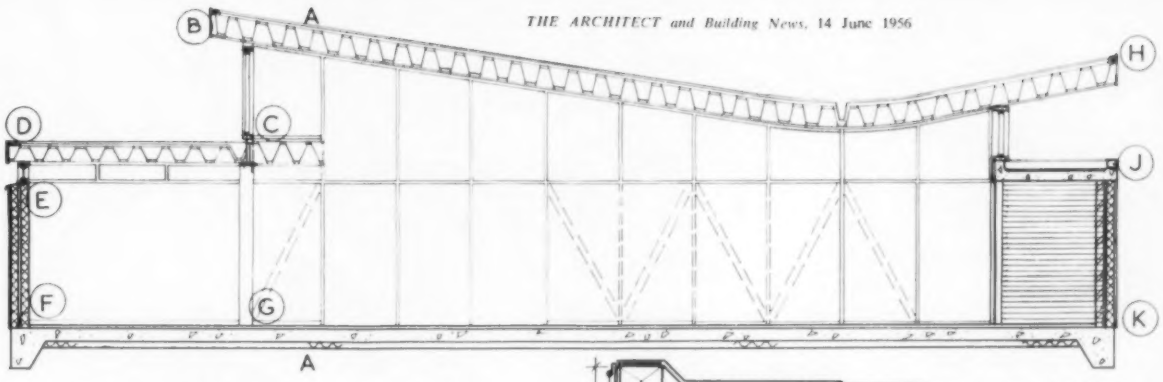
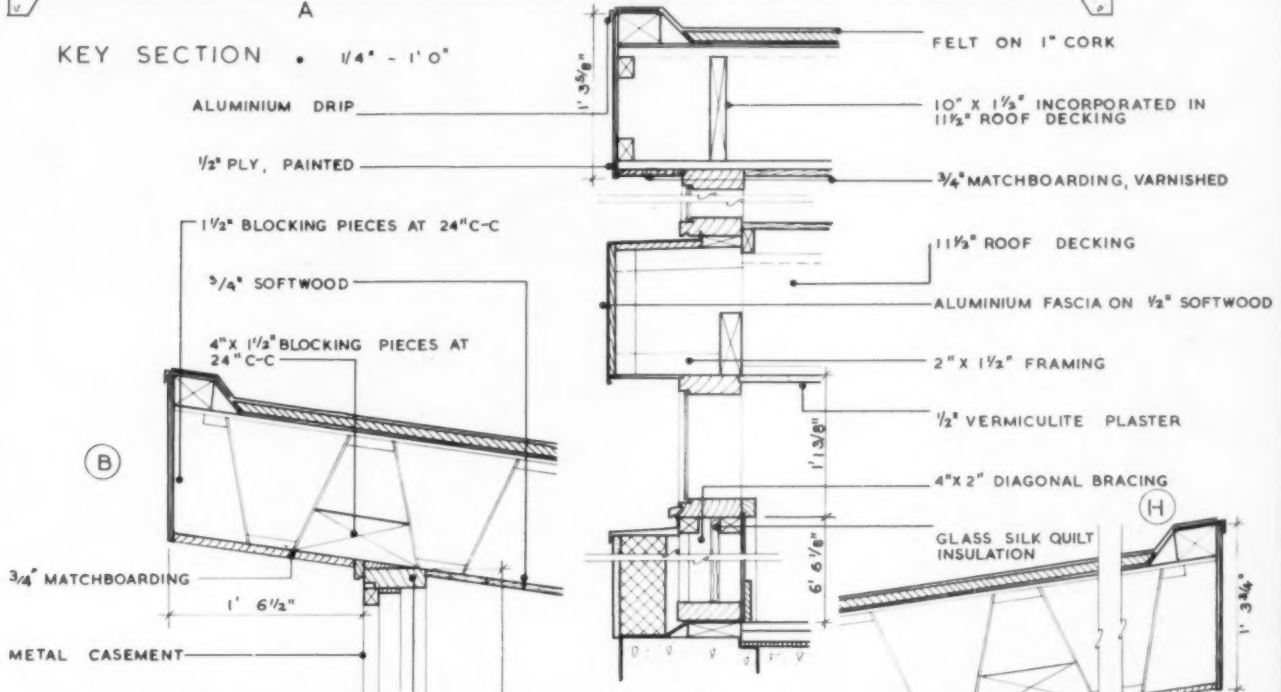
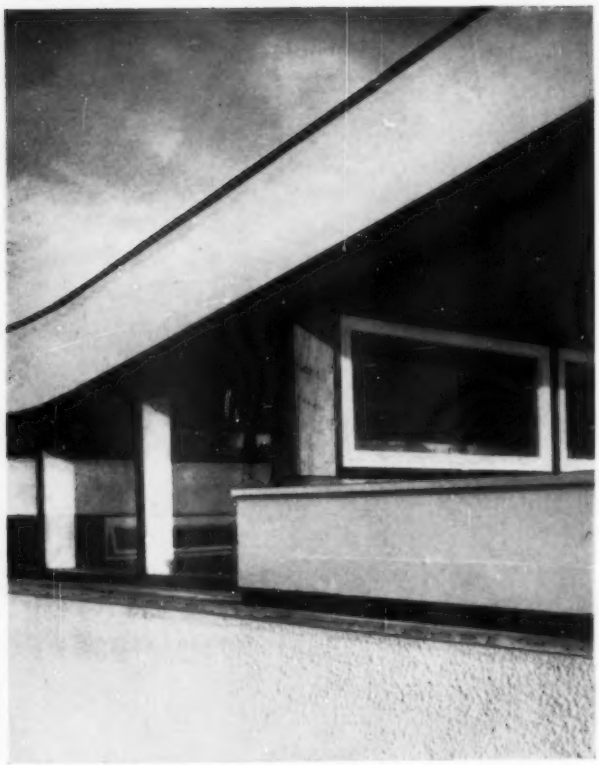


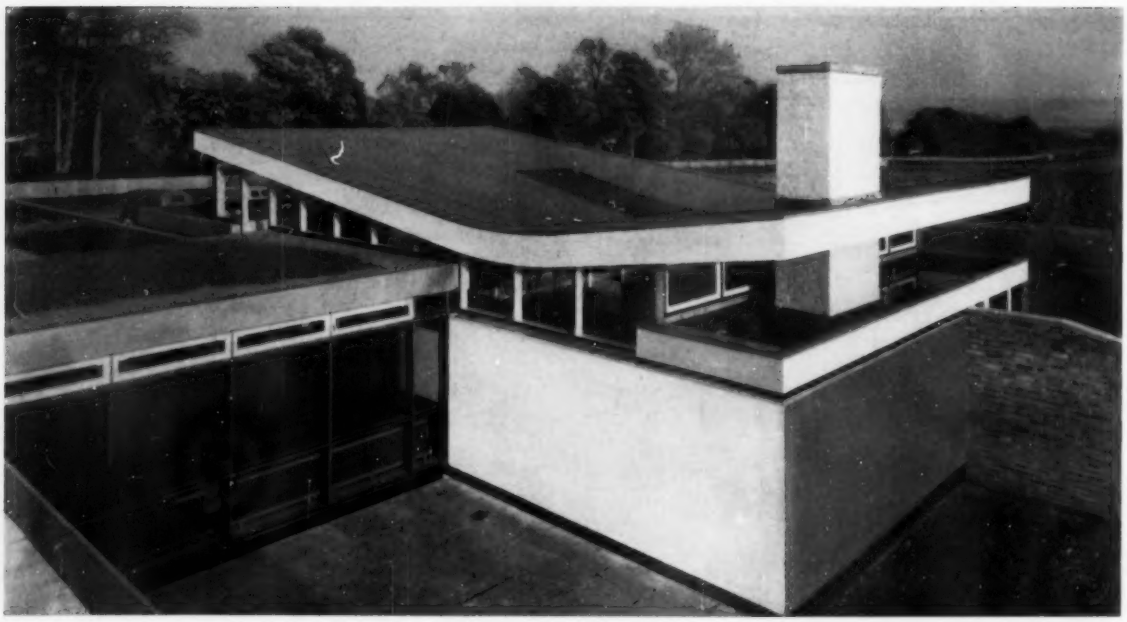
KEY SECTION • 1/4" - 1' 0"



SECTION A-A

DETAILED SECTION • 3/4" - 1' 0"





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ARCHITECTS: POWELL & MOYA

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CONTRACT • NEWS •

OPEN

BUILDING

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

ABERGAVENNY B.C. (a) Erection of new buildings, pens, paving, drainage, and other services, for alteration and improvements to the Cattle Market. (b) George Brown and Partners, Brunel House, College Green, Bristol, 1. (c) 2gns.

ALTRINCHAM B.C. (a) Erection of 12 bungalows at Whitley Gardens on the Grange estate. (b) Borough Surveyor, Town Hall. (c) 3gns payable to Borough Treasurer.

BARNET U.C. (a) Applications are invited from firms wishing to be considered for inclusion in the Council's selected Tender List for erection of 136 two-storey terrace houses, 42 two-storey flats, 84 three-storey flats and one shop, at Whitings Hill estate — Section 3. (b) Council's Engineer, Ravenscroft House, Wood Street, together with full details and names of Councils to whom reference may be made. (d) June 18.

BEDFORDSHIRE E.C. (a) Erection of single-storey building comprising three classrooms, staffroom, kitchen and sanitary accommodation, at Wrestlingworth Primary School. (b) County Architect, Shire Hall, Bedford. (d) June 22.

BIDEFORD B.C. (a) Erection of a block of 6 houses at Grenville estate. (b) Borough Surveyor, Municipal Buildings. (c) 2gns. (e) June 22.

CALNE CORPORATION. (a) Erection of 14 single-storey dwellings at Homey Garston, together with roads and site works. (b) G. Brown and Partners, Brunel House, College Green, Bristol, 1. (c) 2gns.

COULSDON AND PURLEY U.C. —(a) Erection of 100 houses on the Old Lodge estate, Purley. (b) Council's Engineer, Council Offices, Brighton Road, Purley. (c) 3gns. (d) June 20. (e) July 19.

DENTON U.C. (a) Erection of 60 flats at Mill Lane. (b) Council's Engineer, Town Hall. (c) 2gns. (e) July 6.

DURHAM C.C. (a) Erection of one police house with office at Stillington and one house with office at Witton-le-Wear. (b) G. R. Clayton, South Street. (d) June 20.

EIRE — DUBLIN CORPORATION. (a) Erection of seven blocks of flat dwellings at Bluebell housing area. (b) City Treasurer, Exchange Buildings, Lord Edward Street. (c) 15gns. (e) June 29.

ELLESMERE PORT B.C. (a) Contract No. 202. Erection of 48 houses at Atherton Lodge estate. (b) Borough Engineer, Queen Street. (c) 3gns. (e) July 9.

ELLESMERE PORT B.C. (a) Contract No. 206. Erection of 106 houses at North Whitby estate, Parts III and IIIA. (b) Borough Engineer, Queen Street. (c) 3gns. (e) July 9.

ERITH B.C. (a) Erection of 122 maisonnettes, 48 flats and six shops at Picardy Street, Belvedere, Erith. (b) Borough Engineer, Town Hall. (c) 2gns. (e) July 12.

ESSEX C.C. (a) Erection of three additional classrooms at Waltham Abbey Upshire Primary School. Approx. cost

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£8,500. (b) County Architect, County Hall, Chelmsford. (d) July 25.

ESSEX C.C. (a) Erection of a bungalow for maintenance engineer at Thurrock Technical College. (b) County Architect, County Hall, Chelmsford. (d) June 16.

ESSEX C.C. (a) Carrying out internal renovations at Romford High School for Girls. Approx. cost £2,500. (b) County Architect, County Hall, Chelmsford. (d) June 16.

EXETER AND MID-DEVON HOSPITAL MANAGEMENT COMMITTEE. (a) Carrying out repairs and renovations at Belmont Hospital. (b) Superintendent Engineer, Royal Devon and Exeter Hospital, Exeter. (e) July 6.

FAILSWORTH U.C. (a) Erection of five pairs of one-bedroomed bungalows at Clive Road, off Ashton Road West, and 15 pairs of two-bedroomed type houses, seven pairs of one-bedroomed bungalows at Coronation Road. (b) Council's Engineer, Town Hall, Failsworth, Nr. Manchester. (c) 2gns. (e) July 7.

HARTLEY WHITNEY R.C. (a) Erection of 14 dwellings on the Manor Park estate, Yateley. (b) Council's Engineer, Council Offices, Hartley Witney.

HAVERFORDWEST (a) (1) Supply and erection of structural steelwork (2) construction of foundations, decking, and other builders' work, and (3) supply and fixing of asbestos sheet cladding and glazing, for a spectators' stand, to accommodate approx. 500 persons, at the Bridge Meadow, Haverfordwest. (b) J. B. Hemingway, 2, Picton Place, immediately, stating the sections of work which interest applicant.

HAVERHILL U.C. (a) Erection of 15 houses, eight houses, four bungalows and four single-person dwellings in North Avenue, on the Parkway estate. (b) J. C. Myers, High Street. (c) 5gns. (e) June 23.

HEMEL HEMPSTEAD B.C. (a) Erection of (1) Scheme 5, 26 two-storey houses, and (2) Scheme 6, 83 dwellings, comprising 35 two-storey houses, 12 bungalows; 12 two-storey flats and 12 maisonnettes with 12 flats over, at Highfield Neighbourhood. (b) Borough Engineer, High Street. (d) Immediately. (e) July 14.

HEMSWORTH R.C. (a) Erection of (1) 30 houses at Great Houghton, (2) 14 houses at Ryhill, and (3) 14 houses and 12 bungalows at Shafton. (b) Council's Engineer, Brierley Hall, Brierley, Nr. Barnsley. (c) 2gns. (e) June 26.

HOLDERNESS R.C. (a) Erection of four houses at Bewholme, eight houses and four bungalows at Sigglesthorne, 22 houses and eight bungalows at Skirlaugh. (b) Council's Surveyor, Council Offices, Skirlaugh. (c) 2gns. (e) June 25.

HOLLAND C.C. (a) Erection of a new school at Wyberton, near Boston. (b) County Architect, County Hall, together with an assurance that applicant has the necessary financial and material resources and organisation to undertake the work. (c) 2gns. (d) June 18.

LEICESTER C.C. (a) Carrying out the erection of small extension, approx. 1,250 ft sup. floor area, to the existing laundry at Aylestone Bath, Knighton Fields Road West. (b) City Surveyor, Town Hall. (c) 1gn. (e) July 7.

LEICESTER C.C. (a) Carrying out alterations to form classrooms and sanitary accommodation at Abington House, Wigston Magna. (b) County Architect, 123, London Road. (c) 2gns. (e) July 6.

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LINCOLN C.C. — PARTS OF KESTEVEN. (a) Erection of a pair of police houses at North Parade, Sleaford, and a pair at Exeter Gardens, Stamford. (b) County Architect, County Offices, Sleaford. (e) June 27.

LIVERPOOL C.C. (a) Erection of nine flats at Beaumont Street, Liverpool, 8 (b) City Architect, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. (c) 2gns. (e) June 21.

LONDON—CHINGFORD BOROUGH COUNCIL. (a) Erection of 18 semi-detached houses on the Valley Side estate. (b) Borough Engineer, Town Hall, E.4. (c) 2gns. (e) July 4.

LONDON — HAMPSTEAD B.C. (a) Erection of approx. 18 two-storey shops (ground and lower ground floor) of varying sizes with 50 flats above on three floors at Finchley Road, N.W.3. (b) Town Clerk, Town Hall, Haverstock Hill, N.W.3, with statement of work already carried out. (d) June 20.

LONDON — TOTTENHAM B.C. (a) Extension and alterations to the Central Library, High Road, N.17. (b) Borough Engineer, Town Hall, N.15. (c) 2gns. (d) June 30. (e) August 27.

LOOE U.C. (a) Erection of a block of four flats, together with an extension of the existing sewerage system at the Sun Rising estate. Contract No. 36. (b) G. H. Ivory and Partners, 24, Athenaeum Street, Plymouth. (c) 3gns. by cheque payable to Council. (e) June 30.

MALDEN AND COOMBE B.C. (a) Erection of 10 houses at Housing Site No. 65, Cromwell Avenue. (b) Borough Engineer, Municipal Offices, New Malden, Surrey. (d) June 22.

MALVERN. (a) Erection of New Dyson Perrins Church Secondary School, Yates Hay Road. Estimated cost £100,000. (b) T. R. Bateman, 21, Vine Street, Evesham. (c) 2gns. (d) June 16.

MIDDLETON B.C. (a) Erection of 18 flats and 20 houses on Hollin estate. (b) Borough Architect, Town Hall. (c) 2gns. (e) July 2.

NEWCASTLE UPON TYNE C.C. (a) Adaptation of "B" block at Elswick Grange to provide accommodation for aged people. (b) City Architect, 18, Cloth Market. (e) June 25.

NORFOLK EDUCATION COMMITTEE. (a) Erection of a pair of detached dwelling-houses at Sidestrand Hall, near Cromer. (b) Chief Education Officer, County Education Offices, Stracey Road, Norwich. (d) June 20.

N. IRELAND — MINISTRY OF FINANCE. (a) Erection of a telephone repeater station in Enniskillen, Co. Fermanagh. (b) Ministry of Finance, (Room 103) Law Courts Building, May Street, Belfast. (c) £2. (e) June 26.

N. IRELAND — NEWTOWNWARDS B.C. (a) Erection and completion of 12 dwelling-houses and construction of various site works at Culmore and Stranmore Avenues. (b) Town Clerk, Town Hall. (c) £3. (e) July 2.

NOTTINGHAM C.C. (a) Erection of new scullery at Trent Bridge School. (b) City Engineer, The Guildhall. (c) £2. (e) June 26.

RAINFORD U.C. (a) Erection of 22 houses on site at Junction Road, and five houses on site at Ormskirk Road. (b) R. R. Hammond, 70, Bickerstaffe Street, St. Helens. (c) 3gns. (e) June 25.

SANDOWN — SHANKLIN U.C. (a) Carrying out alterations and additions to the Spa Hotel, Esplanade. (b) Messrs. A. E. Gogswell and Sons, Prudential Build-

ings, Commercial Road, Portsmouth. (c) 2gns. (e) June 25.

SCOTLAND — KINCARDINE C.C. (a) Erection of and extension to Luthermuir Primary School. All or separate trades. (b) County Architect, Westfield House, Arduthie Road, Stonehaven. Contractors should indicate the trade(s) for which they desire schedules. (e) July 6.

SHREWSBURY B.C. (a) Erection of an additional bedroom over an existing store at the Quarry Lodge. The Quarry. (b) Borough Engineer, Guildhall. (c) 2gns. (e) June 22.

SOMERSET C.C. (a) Erection of Crewkerne Secondary School, Frome Secondary School, Keynsham Secondary School, and Weston-super-Mare Bournville Junior School. (b) County Architect, Park Street, Taunton, with an assurance that applicant has the necessary financial and material resources and organisation to undertake the work. (c) 2gns. each school. (d) June 18.

SOUTHAMPTON B.C. (a) Erection of eight flats in one four-storey block, 14 flats in one four-storey block, 12 flats in one three-storey block, two flats in one one-storey block and five garages at Vyse Lane Redevelopment Scheme — Contract B. 220. (b) Borough Engineer, Civic Centre. (d) June 18.

SOUTHPORT B.C. (a) Erection of an additional classroom at the Farnborough Road Junior School, Birkdale. (b) Borough Architect, 99/105, Lord Street. (c) 2gns. (e) July 6.

SOUTH SHIELDS B.C. (a) Erection of 106 houses ot Whiteleas estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) July 10.

SOUTHWELL R.C. (a) Erection of a detached brick-built bungalow on the Council's Aluminium Bungalow Site, Hawthorn Drive, Boughton. (b) Council's Surveyor, 8, Westgate. (c) 2gns. by cheque payable to the Council. (e) July 9.

SPENBOROUGH B.C. (a) Erection of new lairage at Public Abattoir, Liversedge. (b) Borough Engineer, Town Hall, Cleckheaton. (c) 2gns. (e) July 9.

SPILSBY R.C. (a) Erection of a block of three bungalows off Boston Road. (b) Council's Engineer, Council Offices, Toynton Hall. (c) 3gns. by cheque payable to Council. (e) June 30.

SWALE R.C. (a) Erection of 12 houses at Playstool Road, Newington, together with external works and other ancillary site works. (b) Council's Engineer, 48, Bell Road, Sittingbourne. (c) 3gns. (e) June 27.

TUTBURY R.C. (a) Erection of 62 houses and bungalows on the Croft site. (b) Council's Engineer, Council Offices, "Kingsley," 44, Rollestone Road, Burton upon Trent, Staffs. (e) July 3.

WATFORD R.C. (a) Carrying out alterations and additions to provide vehicle garages, etc., at the Council's Works Depot, Oakridge Lane, Radlett. (b) Council's Engineer, 99, Langley Road. (e) June 25.

WEST SUFFOLK C.C. — E.C. (a) Erection of two classrooms and library, cloakroom and stores at Hadleigh Secondary School. (b) County Architect, 13, Westgate Street, Bury St. Edmunds. (c) 2gns. (d) June 19. (e) July 23.

WEST SUSSEX C.C. (a) Erection of new secondary modern school at Ifield, Crawley. (Job No. 4313). (b) County Architect, County Hall, Chichester. (d) June 21.

WREXHAM B.C. (a) Erection of 86 dwellings, together with external site works at Queen's Park estate, Southern Area, Section 8. (b) Borough Engineer, 31, Chester Street. (c) 3gns. (e) June 29.

HATHERNWARE

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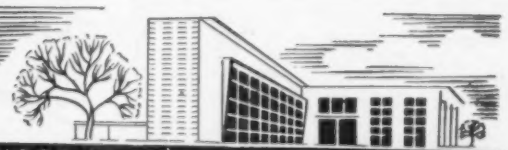

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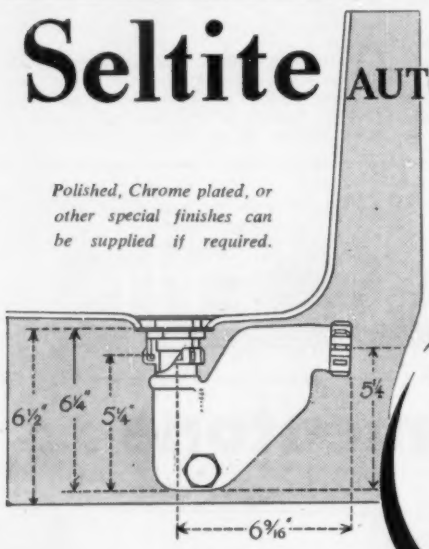

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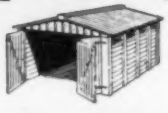

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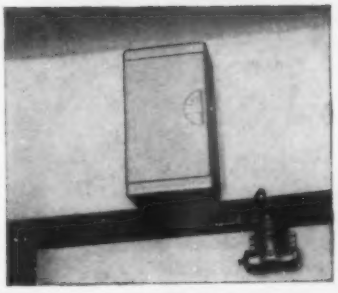

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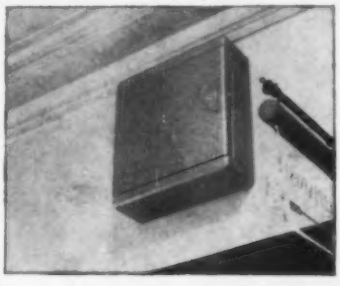

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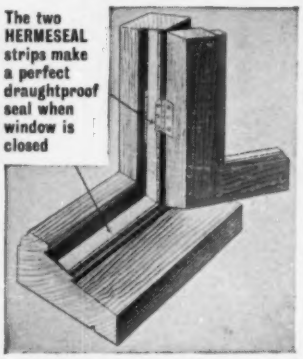
EXAMPLE: D/H Sash Windows of wood, 5′ 2″ x 2′ 8″, average length and width of gap, 18′0″ x ⅛″, average wind speed 10 m.p.h.



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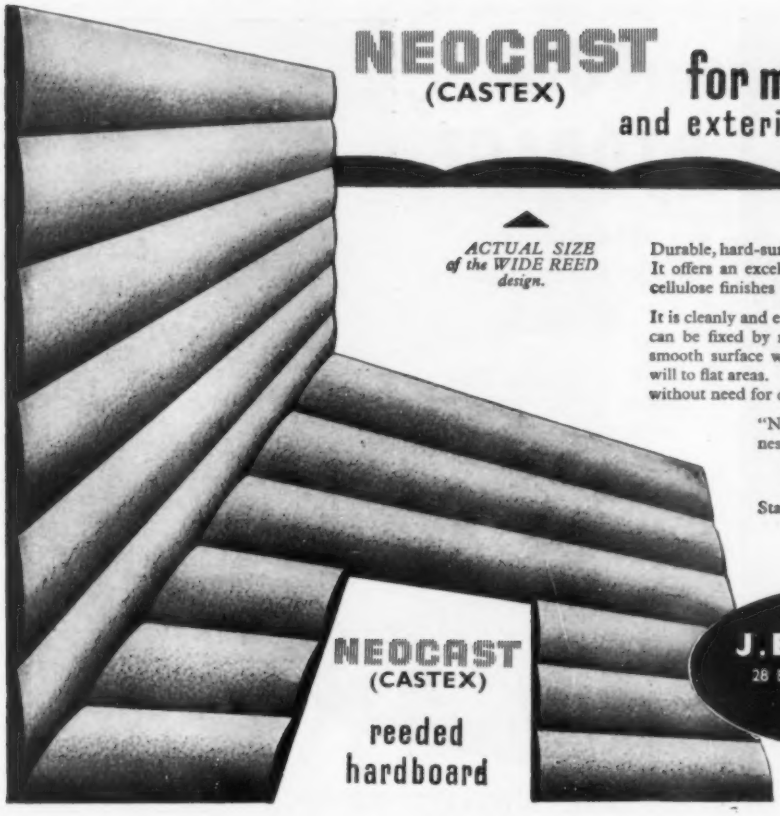

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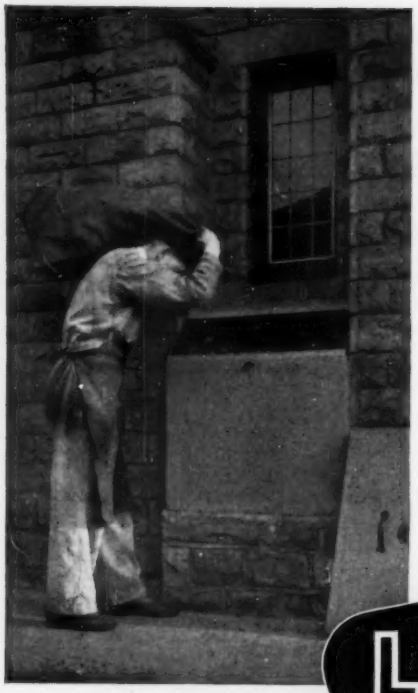

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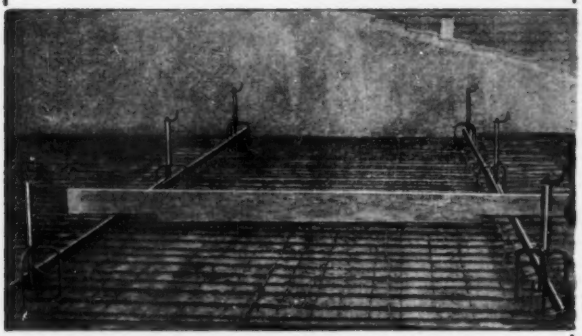

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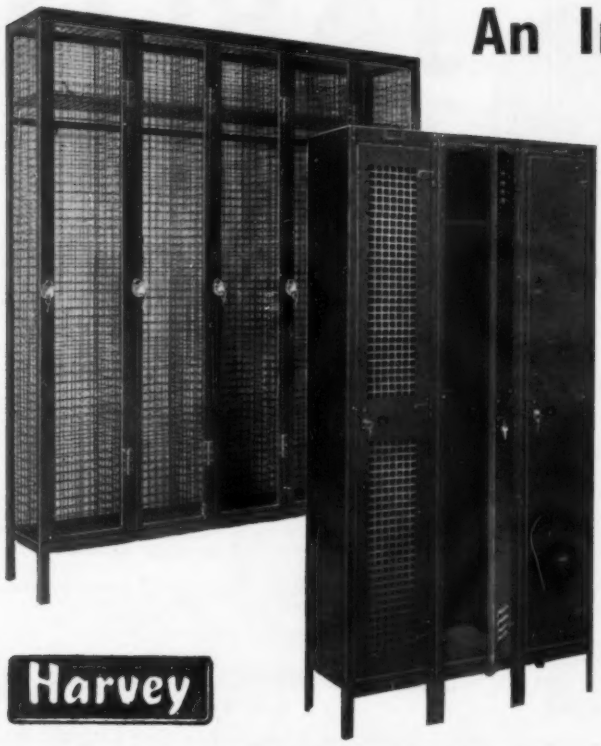

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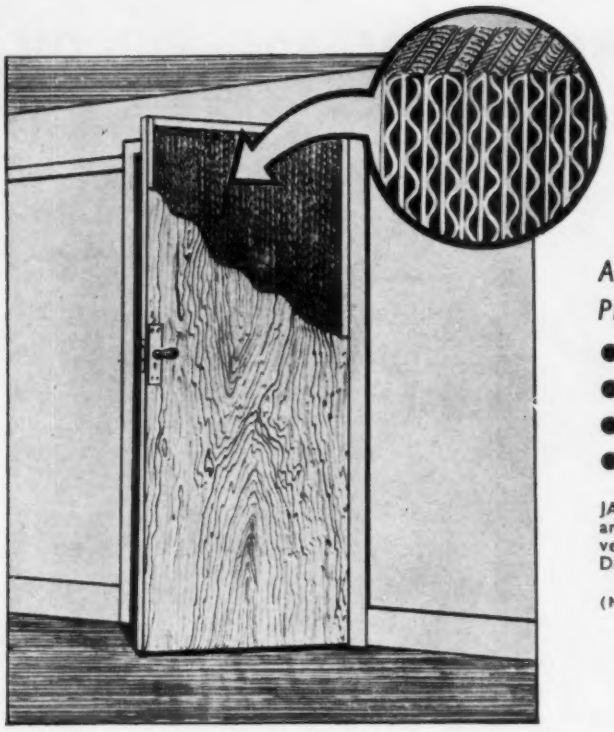

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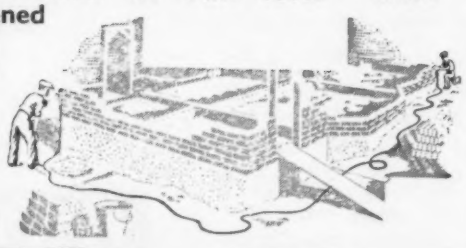

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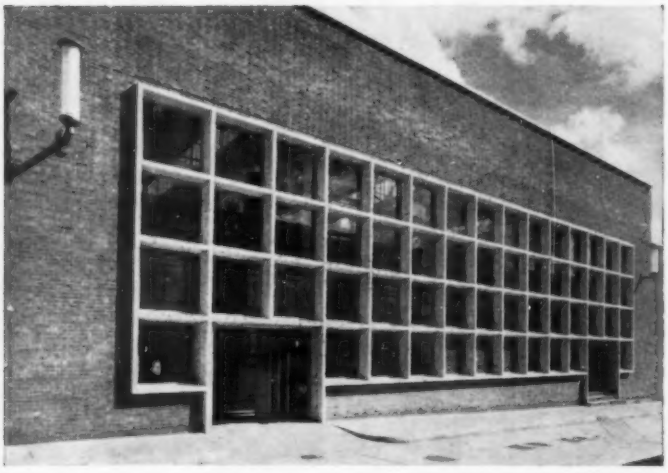

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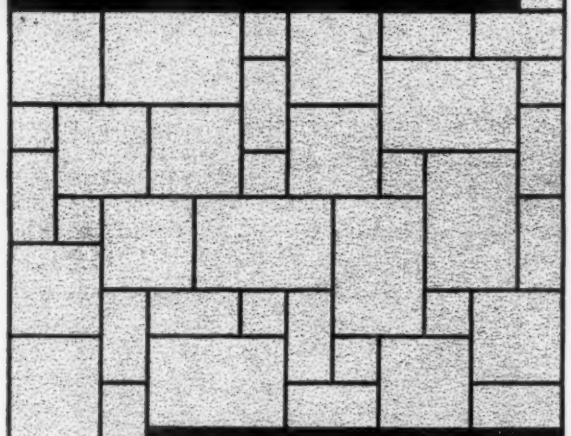

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APPOINTMENTS • CONTRACTS • TENDERS

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APPOINTMENTS

COUNTY COUNCIL OF THE COUNTY OF LANARK

PROPERTY DEPARTMENT

APPLICATIONS are invited for the following appointments to the staff of the County Architect at Albert Street, Motherwell:—

ARCHITECTS.

(a) Senior Assistant Architects. Salary £1,100/£1,150.
(b) Architectural Assistants. Salary scale A.P.T. Grades I to VIII (£550/980).

Applicants for posts (a) must be fully qualified. In addition to an all-round knowledge of architectural practice, they should have some knowledge of modern School building and be capable of assuming a position of responsibility.

Applicants for Posts (b) should possess the necessary qualifications for placing on these grades.

In addition to a large School Building Programme, work in this Department embraces every aspect of building with the exception of Housing; these appointments, therefore, provide an excellent opportunity for extending experience on an interesting and varied programme.

ASSISTANT QUANTITY SURVEYOR. Salary £1,100/£1,150.

Applicants for this post must have passed Final Examination of the R.I.C.S. and have had practical experience in the preparation of estimates and Schedules of Quantities, measuring up and checking of final accounts of all trades.

Medical examination. Superanuation. No canvassing.

Applications stating age, qualifications and experience together with the names of three referees should be lodged with the undersigned not later than 30th June, 1956.

IAN V. PATERSON,
County Clerk.

Lanarkshire House,
191 Ingram Street,
Glasgow. [2441

URBAN DISTRICT COUNCIL OF CORBY

JUNIOR ARCHITECTURAL ASSISTANT
Grade A.P.T. I (£530 - £610)

APPLICATIONS are invited for the above appointment in the Architectural Section of the Engineer and Surveyor's Department.

Applicants must have passed the R.I.B.A. Intermediate Examination, or its equivalent at one of the recognised schools of architecture, and preference will be given to those who have had practical office experience in housing and general architecture.

The provisions of the Local Government Superannuations Act 1937/53, will apply to this appointment.

Housing accommodation will be made available to the successful candidate if married.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Saturday, 23rd June, 1956. Testimonials will be required only from applicants selected for interview.

G. B. BLACKALL,
Clerk of the Council.

County Offices,
CORBY, Northants.
28th May, 1956. [2394

LONDON ELECTRICITY BOARD

CIVIL/STRUCTURAL ENGINEERING ASSISTANTS AND DRAUGHTSMEN

APPLICATIONS are invited for the above positions in the Construction Branch of the Chief Engineer's Department in Central London.

Conditions of service are in accordance with the National Joint Board agreement, Schedule 'D', and salaries are inclusive of London Allowance.

Applicants for the positions of Assistants should have experience in the design and detailing of structural steelwork for buildings, etc. Salary within Grade V — £735/£840 per annum.

Applicants for the positions of Draughtsmen should have experience in the preparation of drawings for either reinforced concrete or structural steelwork, or building work. Salary within Grade VI — £588/£714 per annum.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please quote ref.: PER/V/2003/AA. [2422

APPOINTMENTS—contd.

CITY OF BIRMINGHAM EDUCATION COMMITTEE

COLLEGE OF ARTS AND CRAFTS
Principal: Meredith W. Hawes, A.R.C.A., A.R.W.S., N.R.D.

SCHOOL OF INDUSTRIAL DESIGN

APPLICATIONS are invited for the post of Head of the School of Industrial Design. The post is an important one in the College and candidates, who should be practising designers, are expected to hold high professional qualifications in industrial design or architecture. Teaching experience is also desirable. Salary in accordance with Burnham (Further Education) Scale for Heads of Departments, Grade II: Men £1,065 x £25 to £1,215. Forms of application and further particulars may be obtained from the Principal, College of Arts and Crafts, Margaret Street, Birmingham, 3, (s.a.e.). Closing date 30th June, 1956.

The successful candidate will be required to take up duty on the 1st January, 1957.

E. L. RUSSELL,
Chief Education Officer.
May, 1956. [2420

BASILDON DEVELOPMENT CORPORATION

DEPARTMENT OF ARCHITECTURE AND PLANNING REQUIRE:

(a) Assistant Architect — Grade IVB £845 - £960
(b) Assistant Architect — Grade IVA £715 - £845
(c) Assistant Architect — Grade VB £580 - £650

ARCHITECTS may work on Town Centre, Housing or Factories: experience and ability in contemporary design and the preparation of working drawings essential. Candidates for appointment (a) must also have experience in contract supervision and management.

Applicants posts (a) and (b) must hold professional qualification in Architecture. Post (c) must have passed intermediate R.I.B.A.

Appointments superannuable and subject to satisfactory medical examination.

Housing available for renting.

Applications on special form (obtainable from Chief Architect) to General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, endorsed with relevant appointment, by Monday, 25th June, 1956. [2423

FEDERATION OF RHODESIA AND NYASALAND

VACANCIES:

ASSISTANT QUANTITY SURVEYORS
FEDERAL DEPARTMENT OF PUBLIC WORKS

APPLICANTS, under 35, must hold A.R.I.C.S. Quantities) or a qualification accepted by the R.I.C.S. for exemption from their Associateship examinations. Duties include taking off and preparing Bills of Quantities for all types of public buildings, including measurement and valuation of builders' accounts. Starting salary, £900 - £1,250, depending on qualifications and experience, on scale rising to £1,600 p.a. Successful applicants will probably be stationed in Salisbury but are liable to serve anywhere in the Federation. Application forms and further details from Secretary, Rhodesia House, 429, Strand, London, W.C.2. Closing date 7th July, 1956. [2424

COUNTY BOROUGH OF EAST HAM

BOROUGH ENGINEER'S DEPARTMENT

ARCHITECTURAL ASSISTANTS — Grade II, £595—£675.
JUNIOR ARCHITECTURAL ASSISTANTS—Grade I, £530—£610.

London Weighting is paid in addition. Salary in excess of the minima may be paid according to qualifications and experience.

Subsistence allowances may be granted over a reasonable period to the persons appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and application forms returnable by 29th June, 1956, from the Town Clerk, Town Hall, East Ham, E.6. [2430

APPOINTMENTS—contd.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

VACANCIES exist for Architect/Planners (salaries up to £817). Tasks include three-dimensional planning within London's eight major Comprehensive Development Areas (including Stepney-/Poplar, the South Bank, and Elephant and Castle) and other Redevelopment Areas.

The work includes the preparation of comprehensive layouts covering all the important areas of new public and private development throughout the County, and covers the whole field of planning technique.

Particulars and application form, from Architect (AR/EK/ATP/2), County Hall, S.E.1. (907). [0006

ARCHITECTURAL DRAUGHTSMAN required by ADEN GOVERNMENT P.W.D. on contract for tour of 18 to 24 months in first instance. Salary according to experience in scale (including pay differential) £930 rising to £1,452 a year. Gratuity at rate £100/150 a year. Outfit allowance £60. Free passages for officer and wife. Free passages for four children under age 18. Education allowance in lieu of passages for children between 8 and 18 years undergoing full time education in U.K. Liberal leave on full salary. Candidates must have sound knowledge of architectural drawing, building construction and measurement of existing buildings. Candidates who have passed R.I.B.A. Inter Exam or recognised equivalent given preference. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/41744/AF. [2421

BASILDON DEVELOPMENT CORPORATION

DEPARTMENT OF ARCHITECTURE AND PLANNING

require Assistant Planners to assist in implementation of Master Plans. Experience and ability in planning design essential. Salary (a) Grade IVB — £845 - £960 (b) Grade IVA — £715 - £845. Post (a) is for an Architect Planner, qualified in both professions. For Post (b) planning qualifications essential, Architectural experience desirable. Appointments superannuable. Housing available for renting. Applications on special form (obtainable from Chief Architect) to General Manager, Gifford House, Basildon, Essex, by Friday, 13th July, 1956. [2438

AIR MINISTRY Works Designs Branch require in London and the Provinces ARCHITECTURAL ASSISTANTS experience in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries up to £850 p.a. (men) and £752 (women).

Starting pay dependent on age, qualifications and experience.

Paid overtime. Long term possibilities with promotion and pensionable prospects, four weeks leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange, quoting Order No. Borough 1000. [2221

COUNTY OF ESSEX

BOROUGH OF WALTHAMSTOW—COMMITTEE FOR EDUCATION

APPLICATIONS are invited for the appointment of Senior Assistant Architect in the Office of the Education Architect, Mr. T. L. Rampton, A.R.I.B.A., A.R.I.C.S.

Salary in accordance with A.P.T. Grade V, £795 by £35 increments to £970 per annum, plus London Weighting of £30 (under 26 years of age £20).

Applicants must be Associate Members of the R.I.B.A. and have had experience in the design and construction of schools. Experience in contract administration and control of staff an advantage.

The appointment is superannuable and subject to medical examination.

Applications on forms to be obtained from and returned to the Borough Education Officer, Town Hall, Forest Road, Walthamstow, E.17 within two weeks of the appearance of this notice. [2433

APPOINTMENTS—contd.

NATIONAL COAL BOARD—

NORTH EASTERN DIVISION

APPLICATIONS are invited for the following appointments in the office of the Divisional Chief Architect situated at Conisborough, near Doncaster:—

QUANTITY SURVEYOR GRADE II
(Salary Scale: £700 x £30—£1,000 per annum).
Qualifications: A.R.I.C.S.

ARCHITECTURAL ASSISTANTS GRADE II
(Salary Scale: £520 x £20 to £615 per annum).
Qualifications: Preferably Intermediate R.I.B.A. or studying for such Examination.

JUNIOR ARCHITECTURAL ASSISTANTS
(Salary Scale:—according to age, £4. 5. 0d. per week at 18 to £8 15. 0d. per week at 25).

Full details and application forms obtainable from Hugh Smith, F.R.I.B.A., Deputy Chief Architect, National Coal Board, P.O. Box No. 4, Denaby, Near Doncaster. [2434

LEYTON COMMITTEE FOR EDUCATION

JUNIOR ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the permanent appointment of a JUNIOR ARCHITECTURAL ASSISTANT, APT GRADE 1, £560—£640 per annum including London Weighting (£30) which is reduced according to scale where age is less than 26.

The successful applicant will be employed by the Essex County Council and will work in the School Architect's Section of the Borough Engineer and Surveyor's Department, Town Hall, Leyton, London, E.10.

Alternate Saturday mornings free of duty and canteen facilities available.

Details and form of application from the Borough Education Officer, Kirkdale Road, Leytonstone E.11, to whom they should be returned by THURSDAY, 5th JULY, 1956.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10. [2445

GOVERNMENT OF SARAWAK

SENIOR ASSISTANT ARCHITECT, PUBLIC WORKS DEPARTMENT

TO assist with the Development building programme, and to deputise for the Government Architect in his absence.

Appointment on contract for 36 months. Salary £1,918 p.a. Gratuity £37 10s. for each 3 months' resident service.

Furnished quarters at low rental. Free return passages for officer, his wife and up to three children. 4 or 5 days' leave for each month of resident service.

Candidates age 35—45 should be A.R.I.B.A. and have had considerable practical experience after qualifying. Should have a knowledge of the design of housing, hospitals, police and other public buildings. Aptitude for re-inforced concrete design would be an advantage.

Write to the Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience, quoting BCD 112/24/012. [2443

COUNTY LONDONDERRY EDUCATION COMMITTEE

SECTION ARCHITECT

APPLICATIONS are invited for the above position in the Committee's Offices in Coleraine. Applicants must be Associates of the R.I.B.A. or have equivalent qualifications. Remuneration, within the range £766—£1,160, point of entry according to experience and qualifications. Travelling expenses at County Council Rates.

Application forms and conditions of appointment may be obtained from the Director of Education, Education Offices, New Row, Coleraine, and completed forms should be returned not later than 21st June, 1956. [2444

FEDERAL GOVERNMENT OF NIGERIA

ARCHITECTS—PUBLIC WORKS DEPARTMENT

TO prepare sketch plans, working drawings and detailed specifications for various types of buildings and carry out general work of an Architectural Office.

Appointments on contract. Salary range £1,170 to £1,824 p.a. Gratuity £150 p.a.

Free passages for officer and wife and refund of up to cost of two adult passages for children. Allowance of £75 each for two children maintained outside the territory. Quarters, if available, at low rental. Generous home leave on full salary.

Candidates should be A.R.I.B.A. with wide general experience. Knowledge of Hospital planning would be an advantage.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience, quoting BCD 112/14/05. [2442

APPOINTMENTS—cont.

COUNTY BOROUGH OF EAST HAM

JUN. ASST. PLANNING OFFICER

GRADE I £530—£610. Borough Engineer's Department. Plus London Weighting. Salary above minimum and subsistance may be paid subject to conditions.—Details and form from Town Clerk, E.6. Closing date 2nd July 1956. [2431

COMPETITION

ARCHITECTURAL COMPETITION FOR NEW COLLEGE BUILDINGS, PAISLEY, SCOTLAND.

THE Governors of the above College invite Architects registered under the Architects' Registration Acts and resident in Great Britain, Northern Ireland or the Republic of Ireland to submit in competition designs for new Technical College buildings in Paisley, Scotland.

Assessor: Professor R. Gardner - Medwin, F.R.I.B.A., M.T.P.I.

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Last day for submitting designs: Noon on 27th February, 1957. Last day for questions; 3rd September, 1956.

Conditions may be obtained from J. & A. Gardner, Clerks to the Governors, 3 County Place, Paisley, Renfewshire, on payment of a deposit of £2. An applicant for the conditions must state his registration number or the number of the receipt issued to him by the Architects' Registration Council in respect of the admission fee. [2412

ARCHITECTURAL APPOINTMENTS VACANT

MIDLOTHIAN COUNTY COUNCIL require ARCHITECTURAL ASSISTANTS with sound knowledge of housing and school building. Salary Scales (a) £805—£870, (b) £710—£805, (c) £710—£760 and (d) £550—£665. Superannuable.—Applications with full particulars and copy testimonials to the County Clerk, County Buildings, George IV Bridge, Edinburgh, 1. [2432

FURTHER opportunities exist in the London office of this organisation which offer interesting, well-paid positions to Senior Architectural Assistants who are first-class draughtsmen possessing a progressive architectural outlook and, in addition, are interested and preferably experienced in housing.

When making your application we should like to know of your past experience, present position, ambitions and any other details which will enable us to assess personality and suitability.—KENDRICK, FINDLAY & PARTNERS, 35 Tavistock Square, London, W.C.1. [2436

LADY Architectural Assistant required, Intermediate to Final standard. — Write, stating experience and salary, to Frederick Gibberd, 8, Percy Street, London, W.1. [2439

ASSISTANT (R.I.B.A. intermediate standard) required for estate department of a Yorkshire brewery company. — Write, giving age, experience and salary required, to Box 2401, c/o A. & B. N. [2440

GRENFELL BAINES & HARGREAVES: Full opportunities for Assistant Architects to practise Architecture in progressive office, pleasant working conditions, good company. Some School training preferred, five years office experience necessary. Basic salary and guaranteed bonus £1,000 per annum, plus overtime on basic rates, for minimum of one year following three months trial period. Possibility of permanence with established superannuation scheme. — Apply: 12, Guildhall Street, Preston. [2437

ARCHITECTURAL Assistant required up to intermediate standard, Westminster office. Pension and bonus schemes, 5-day week. — Write, stating experience, age and salary required, to Box 2376, c/o A. & B. N. [0083

ARCHITECTURAL Assistants, fully qualified and intermediate standard, required for Coventry and London offices. Excellent opportunities in varied practice covering wide area. Good salaries, closely related to capabilities and reviewed annually. Pension scheme available. Five-day week. Travelling expenses to applicants selected for interview.—W. S. Hattrell & Partners, 1, Queens Road, Coventry — 60668; and 14, Hanover Square, London, W.1. Mayfair 4992. [2429

SENIOR Assistant for early partnership with small expanding City practice. Initial salary approx. £1,000, prospects dependent on ability. — Apply in writing, stating experience and present position to: Knapton & Deane, 6, Martin Lane, E.C.4. [2427

JUNIOR Assistants for small, busy City Office. Salary up to approx. £500.—Knapton & Deane, 6 Martin Lane, E.C.4. [2428

ARCHITECTURAL Assistant required of R.I.B.A. Intermediate or Final standard. Give details of qualifications, age, experience and salary required to: Howells & Doherty, Architects and Quantity Surveyors, Masonic Buildings, Bangor, N. Wales. [2426

ARCHITECTURAL APPOINTMENTS VACANT—cont.

ARCHITECTURAL Practice, West End require two assistants, salary £850 to £950, according to experience.—Reply to Box No. 2375. [2425

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. Standard. Excellent opportunities for gaining all-round experience.—Box No. 1685, c/o A. & B. N. [0636

QUALIFIED Architectural Assistant required. — Write full particulars to T. Mitchell & Partners, 20, Bedford Square, W.C.1. [2398

SCHERRER & HICKS, 19 Cavendish Square, W.1. (Tel.: Museum 1105) require immediately a number of architectural assistants with imagination and initiative. The work is varied and covers Research Laboratories, Offices, Housing and Schools. Five-day week. Salary by arrangement. [2370

ARCHITECTS' co-partnership require Assistant for working drawings and detailed design. Salary according to experience. Office doing work in U.K. and West Africa. — Write 44, Charlotte Street, London, W.1, or telephone Langham 5791. [0002

SITUATION VACANT

PRIVATE practice office has vacancy for Assistant willing to take control of jobs. Work includes domestic, ecclesiastical, commercial and industrial, modern and traditional. Urgent. — Send details age, experience and salary suggested to: Forsyth Lawson, Cunningham & Partners, 30, Horse Fair, Banbury, Oxon. [2435

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RECONDITIONED ex-Army Huts & Manufactured Buildings, Timber, Asbestos, Nissen type, Hall Type, etc. All sizes and prices.—Write, call or telephone, Universal Supplies (Belvedere) Ltd., Crabtree Manorway, Belvedere, Kent, Erith 2948. [0082

100,000 ft. Hardwood Mouldings. Plain and Embossed, soiled. Cheap.—Apply Box No. 2257, c/o A. & B. N. [2410

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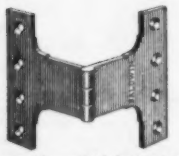

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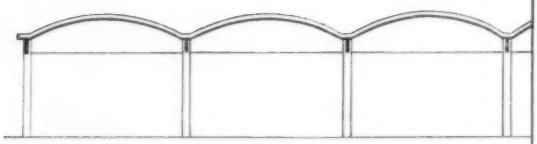

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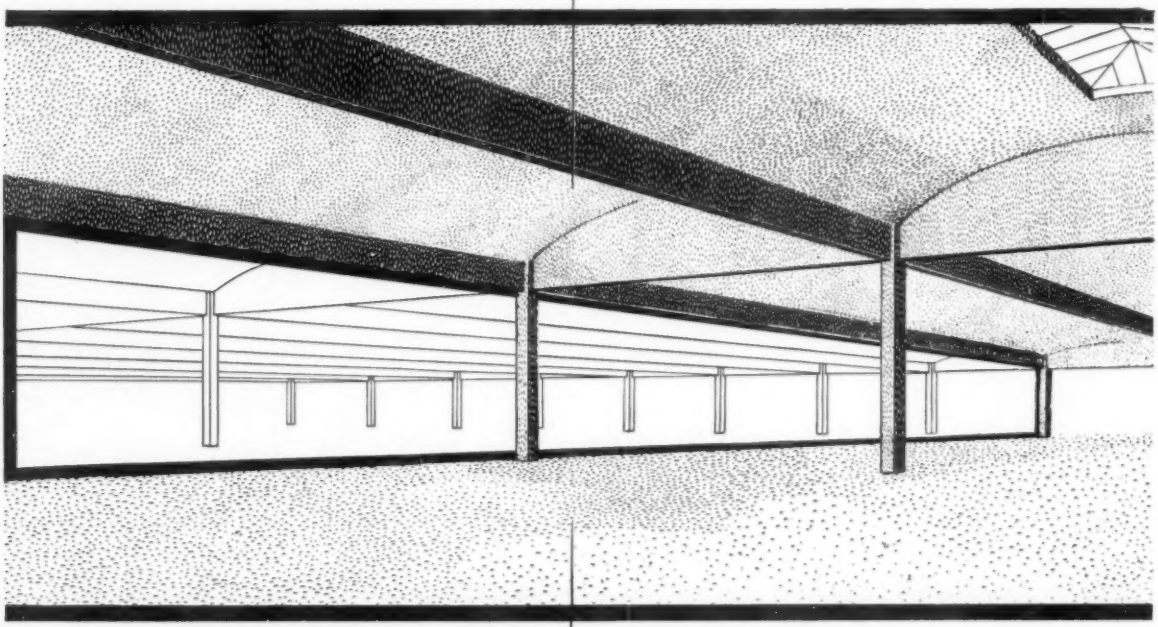

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